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SERVICE MANUAL
for the
Kodak EasyShare C140 DIGITAL CAMERA
Service Code: 8720
Kodak EasyShare CD14 DIGITAL CAMERA
Service Code: 9986

Important
Qualified service personnel must repair this equipment.



Confidential
Restricted Information

KODAK SERVICE AND SUPPORT

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This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

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Description **Page**

Section 1: Illustrated Parts List

Necessary Materials

Primary Tools

Description	Part No.
ESD MAT	Region Provided
SCREWDRIVER - *Phillips*, No. 00 x 40 mm (1.57 in.)	TL-5429
SCREWDRIVER - *Phillips*, No. 000 x 40 mm (1.57 in.)	TL-5430
SCREWDRIVER - *Phillips*, No. 2 x 40 mm (1.57 in.)	TL-5431
SCREWDRIVER - *Phillips*, No. 0 x 50 mm (1.97 in.)	TL-5432
SCREWDRIVER - *Milwaukee*, cordless, with battery and charger, optional	TL-5424
BATTERY for a POWER SCREWDRIVER - 2.4 V, optional	TL-5422
HEX ADAPTER - 0.40 mm (0.02 in.) bit, optional	TL-5421
BIT - power, 00 x 80 mm (3.14 in.), 4 mm (0.15 in.) drive, optional	TL-5423
TWEEZERS - 2	TL-1207
TWEEZERS - special	TL-5338
STATION - soldering, for solder with no Pb	Region Provided
SOLDERING IRON - 35 W, 188 - 204^{0}C (370 - 400^{0}F)	TL-2818
STATION - *Weller*, soldering, 50 W, optional	TL-5412
TIP - soldering iron, standard ST1, optional	TL-5413
TIP - soldering iron, single flat ST5, optional	TL-5414
TIP - soldering iron, conical ST7, optional	TL-5415
SOLDER REMOVAL TOOL	Region Provided
FLASH CAPACITOR DISCHARGE TOOL - resistor minimum, 6.8 kΩ	TL-5337
DIGITAL VOLTMETER	TL-4114
DC POWER SUPPLY - 0 - 12 V, 5.0 A with clip leads, ez or alligator	Region Provided
AIR HOSE - optional	Region Provided
Kodak LENS CLEANING PAPER	Region Provided
Kodak LENS CLEANER	1C8000
COVER CLEANER - *Johnson* SHINE-UP FURNITURE WAX	TL-5182
Computer: • *Microsoft Windows* XP OPERATING SYSTEM • *IBM* COMPUTER or compatible, with a *Pentium* PROCESSOR, 2.0 GHz or higher • 512 MB RAM • 40 GB hard disk space • CD-ROM DRIVE • USB PORT • 53 cm (21 in.) color MONITOR • access to the INTERNET	Region Provided
Color VIDEO MONITOR	Region Provided
FEEDBACK SOFTWARE	Region Provided
LIGHT BOX - *Arrowin* LBF, 2001	Region Provided
LAMP - *Arrowin* LBF, 2001 light box, EVC/FGX, *Phillips,* 6958	Region Provided

Description	Part No.
PAINT - gray, 18%, interior flat	Region Provided Vendor: RC Shaheen 1400 St. Paul Blvd. Rochester, NY 14621 Telephone: 585-266-1500 MUR1597
TARGET - gray, 18%, with hook and loop tape	TL-5931
GEN 3 CUSTOM TEST FIXTURE	TL-5912
GEN 3 FIXTURE CAMERA PLATE - new, optional	4F9373
SHROUD - GEN 3 CUSTOM TEST FIXTURE - optional	TL-5910
TRIPOD - *Bogen,* Model 3021s	TL-5176
TRIPOD HEAD - *Bogen*, Model 3047	TL-5206
OPTRONICS PHOTOMETER/DETECTOR - *Graseby*	Region Provided
COLOR TEMPERATURE METER - *Gossen Color Pro 3F*, or equivalent	Region Provided
AUTO METER VF - *Konica Minolta*	Region Provided
TAPE - masking	Region Provided

Special Tools

Description	Part No.
Kodak Ni-MH RECHARGEABLE DIGITAL CAMERA BATTERIES, AA, 2	122 3353
Kodak OXY-ALKALINE DIGITAL CAMERA BATTERY, AA, 2	892 2338
Kodak ALKALINE BATTERY	Region Provided
USB CABLE, 8-pin, Model U-8, for *Kodak EasyShare* DIGITAL CAMERAS	3F9887
A/V CABLE, Model AV-8, 8-pin, for *Kodak EasyShare* DIGITAL CAMERAS	811 8390
SD, MMC or SDHC MEMORY CARD	Region Provided
SERVICE SOFTWARE - “Vista for Service V4.1.1.4”	*
Firmware file “kC140.fw” **Note** If new firmware is released, the upgrade version is on the “Support Center” of the Kodak.com Web Site.	*
Kodak EasyShare SOFTWARE, Version 5.0.2, 5.1, or 5.2	Region Provided

* This file is on the Kodak Partner Site.

Publications

Publication No.	Title
XP9999-52	USER GUIDE for the GEN 3 CUSTOM TEST FIXTURE with T4

Serial Numbers

The configuration of the serial numbers is:

Description	Serial Numbers
Kodak EasyShare C140 DIGITAL CAMERA	• “KCGLE” • “KBULE”
Kodak EasyShare CD14 DIGITAL CAMERA	“KCGLM”

Reference Table for New CAMERAS

Use the following catalog numbers to order a replacement CAMERA if the CAMERA is under warranty and cannot be repaired, or to order a MASTER CAMERA.

C140

<table>
<tr><th>Region</th><th>Language</th><th>Color</th><th>Catalog or Part No.</th></tr>
<tr><td rowspan="4">Americas and Canada - SENSORMATIC and CHECKPOINT TAGS</td><td rowspan="4">• English
• French
• Spanish
• Portuguese</td><td>Silver-beige</td><td>812 3119</td></tr>
<tr><td>Red</td><td>880 8453</td></tr>
<tr><td>Aqua</td><td>178 7712</td></tr>
<tr><td>Orange</td><td>814 5476</td></tr>
<tr><td rowspan="3">Europe, Africa, and the Middle East</td><td rowspan="3">• English
• French
• German
• Dutch
• Italian
• Spanish
• Portuguese
• Russian
• Turkish
• Polish
• Greek</td><td>Silver-beige</td><td>846 4208</td></tr>
<tr><td>Red</td><td>168 0420</td></tr>
<tr><td>Aqua/Bundle</td><td>814 4693</td></tr>
<tr><td rowspan="3">Greater Asia</td><td rowspan="3">• English
• Chinese, simplified
• Korean
• Thai</td><td>Silver-beige</td><td>126 5545</td></tr>
<tr><td>Red</td><td>806 7092</td></tr>
<tr><td>Aqua/Bundle</td><td>842 2990</td></tr>
<tr><td rowspan="4">Kodak Service & Support - retail, class B</td><td rowspan="4">English</td><td>Silver-beige</td><td>113 6852</td></tr>
<tr><td>Red</td><td>161 9758</td></tr>
<tr><td>Aqua/Bundle</td><td>896 1815</td></tr>
<tr><td>Orange/Bundle</td><td>101 4109</td></tr>
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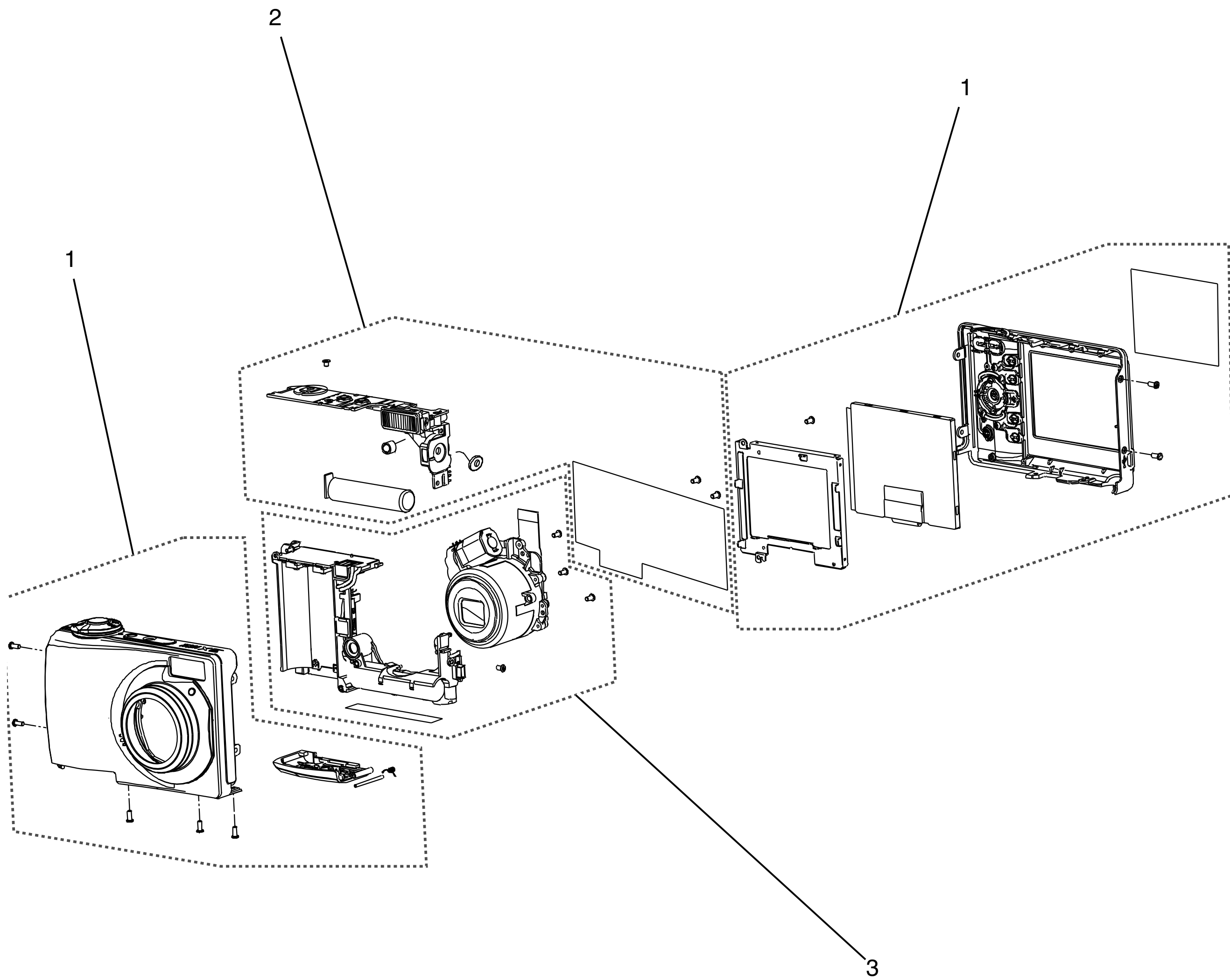
CD14

<table>
<tr><th>Region</th><th>Language</th><th>Color</th><th>Catalog or Part No.</th></tr>
<tr><td rowspan="3">Americas and Canada - SENSORMATIC and CHECKPOINT TAGS</td><td rowspan="3">• English
• French
• Spanish
• Portuguese</td><td>Silver-beige</td><td>197 6133</td></tr>
<tr><td>Red</td><td>117 5694</td></tr>
<tr><td>Silver</td><td>110 6244</td></tr>
<tr><td rowspan="2">Kodak Service & Support - retail, class B</td><td rowspan="2">English</td><td>Silver-beige</td><td>112 9543</td></tr>
<tr><td>Red</td><td>154 7348</td></tr>
</table>

Reference Table for Adjustment Procedures

After installing:	Do:
LENS AY or CCD	• LENS AY, MAIN BOARD, STROBE BOARD AY - “Shutter Delay” on Page 32 • LENS AY, MAIN BOARD: CCD - “ISO_DBP_Shading” on Page 36 • LENS AY, MAIN BOARD: Auto Focus - “EFA” on Page 38 • LENS AY, MAIN BOARD: CCD - “Run_In_WBP” on Page 40
MAIN BOARD	• LENS AY, MAIN BOARD, STROBE BOARD AY - “Shutter Delay” on Page 32 • LENS AY, MAIN BOARD: CCD - “ISO_DBP_Shading” on Page 36 • LENS AY, MAIN BOARD: Auto Focus - “EFA” on Page 38 • LENS AY, MAIN BOARD: CCD - “Run_In_WBP” on Page 40 • MAIN BOARD: Memory - “Reset” on Page 42 • MAIN BOARD: Memory - “Serial Number” on Page 45
STROBE BOARD AY	LENS AY, MAIN BOARD, STROBE BOARD AY - “Shutter Delay” on Page 32

Visual Index



P323_1001DCA
P323_1001DC

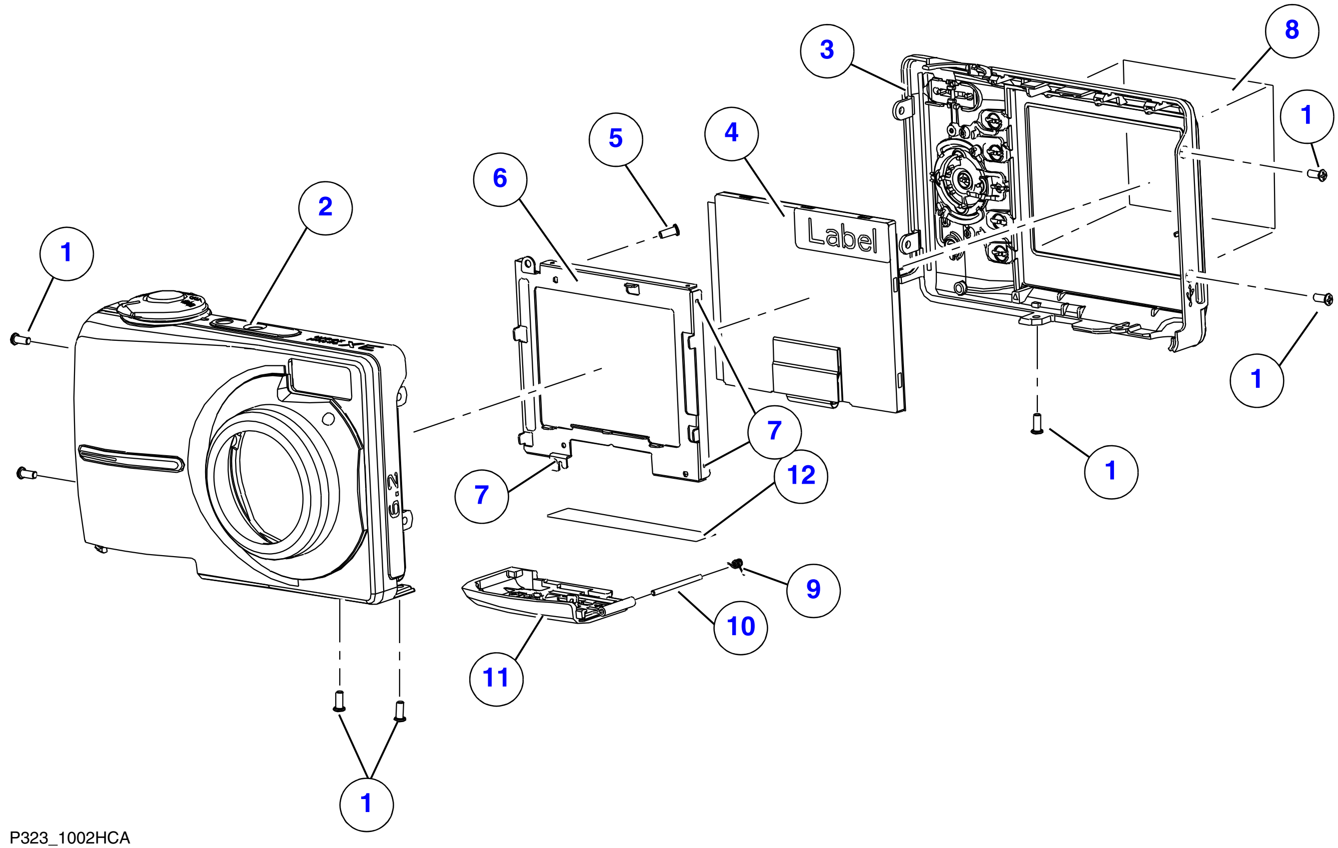
Item	Description
1	"COVER AYs, BATTERY DOOR AYs and LCD" on Page 9
2	"MAIN BOARD and STROBE BOARD AY" on Page 11
3	"LENS and FRAME AYs" on Page 13

Equipment Parts

Caution

- Dangerous Voltage
- Before you remove the BACK COVER AY, you must remove, if installed:
  - MEMORY CARD
  - BATTERIES
- You must do a discharge of the STROBE CAPACITOR after you remove the FRONT COVER AY.

Figure 1 COVER AYs, BATTERY DOOR AYs and LCD



P323_1002HCA
P323_1002HC

Figure 1 COVER AYs, BATTERY DOOR AYs and LCD

Item	Part No.	Description	Quantity	Notes
1	3F9937	SCREW - PH, TAP, 1.7 x 4.0 Ni	7	
2	8H2131	COVER AY - front, silver-beige	1	
	8H2138	COVER AY - front, red	1	
	8H2141	COVER AY - front, aqua	1	
	8H2480	COVER AY - front, orange	1	
	8H2984	COVER AY - front, silver, CD14	1	
3	8H2132	COVER AY - back, silver-beige, C140	1	
	8H2483	COVER AY - back, silver-beige, CD14	1	
	8H2139	COVER AY - back, red, C140	1	
	8H2484	COVER AY - back, red, CD14	1	
	8H2142	COVER AY - back, aqua, C140	1	
	8H2481	COVER AY - back, orange, C140	1	
	8H2985	COVER AY - back, black, CD14	1	Installs with the silver 8H2984.
4	8H2041	LCD - *AUO*, AO24CN02, 6.0 cm (2.36 in.)	1	
5	2F6924	SCREW - PTP, TAP, 1.7 x 3.5, H = 0.6, black	1	
6	4F8649	HOLDER - LCD	1	See the "LCD" on Page 47.
7	- - - -	SOLDER JOINT	3	For the LCD HOLDER.
8	8H2144	FILM - protect, LCD	1	You can also use 3F9938.
9	3F9936	SPRING - battery door	1	
10	3F9935	HINGE - battery door	1	
11	8H2133	DOOR AY - battery, silver-beige	1	
	8H2140	DOOR AY - battery, red	1	
	8H2143	DOOR AY - battery, aqua	1	
	8H2482	DOOR AY - battery, orange	1	
	8H2986	DOOR AY - battery, silver, CD14	1	Installs with the silver 8H2984.
12	8H2145	LABEL - power, silver-beige, C140	1	
	8H2485	LABEL - power, silver-beige, CD14	1	
- - - -	3F9345	STRAP - wrist, black	1	• Not visible in the graphic. • You can also use 3F8616.

Caution

- Dangerous Voltage
- You must do a discharge of the STROBE CAPACITOR after you remove the FRONT COVER AY.
- For replacement of the MAIN BOARD, you must remove the CCD from the old MAIN BOARD and install the CCD onto the new MAIN BOARD.

Figure 2 MAIN BOARD and STROBE BOARD AY

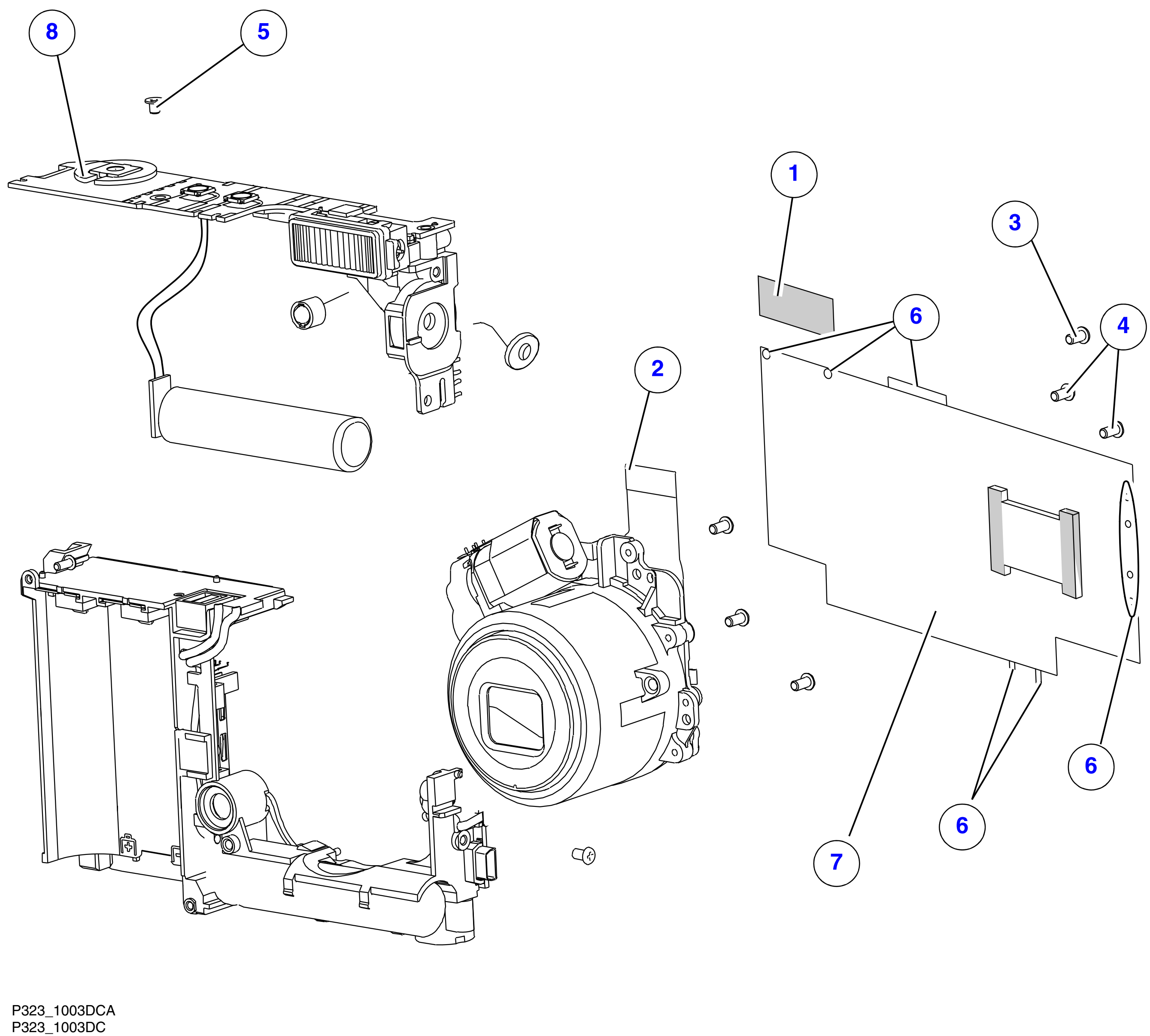


Figure 2 MAIN BOARD and STROBE BOARD AY

Item	Part No.	Description	Quantity	Notes
1	- - - -	TAPE - *Mylar*	1	For the BATTERY CONTACTS.
2	- - - -	FPC	1	
3	2F6924	SCREW - PTP, TAP, 1.7 x 3.5, H = 0.6, black	6	
4	4F8595	SCREW - PH, TAP, 1.4 x 2.0, black	2	
5	2F6923	SCREW - PTP, TAP, 1.7 x 2, 3.2 x 0.3, Ni	1	
6	- - - -	SOLDER JOINT	19	• Between MAIN BOARD and STROBE BOARD AY - 10 • Wires to: – BATTERY CONTACTS - 3 – LED at the top left (green & white) of the MAIN BOARD - 2 – BUZZER CABLE on the left (red & black) of the MAIN BOARD - 2 – MICROPHONE at the bottom (yellow & blue) of the MAIN BOARD - 2
7	8H2137	BOARD - main	1	
	8H2365	BOARD AY - main, GAR only	1	• Includes: – MAIN BOARD – CCD – METAL PLATE • Not in stock at this time.
8	8H2136	BOARD AY - strobe	1	
- - - -	3F6205	FUSE - 2.5 A, F600	2	See "MAIN BOARD, Top" on Page 78.
- - - -	3F6204	FUSE - 1.25 A, F800	2	See "STROBE BOARD, Top" on Page 80.

Caution

- Dangerous Voltage
- You must do a discharge of the STROBE CAPACITOR after you remove the FRONT COVER AY.
- The LENS AY with the CCD also has a RUBBER BOOT and an UV-IR CUT FILTER that must remain with the LENS AY.
- For replacement of the LENS AY only, you must:
  - remove the new CCD from the new LENS AY
  - use the old RUBBER BOOT and the old UV-IR CUT FILTER
  - install the new LENS AY with the old CCD
- For replacement of the LENS AY and the CCD:
  - remove the old CCD from the MAIN BOARD
  - remove the new CCD from the LENS AY
  - install the new CCD onto the MAIN BOARD
  - install the new RUBBER BOOT, UV-IR CUT FILTER and LENS AY
- For replacement of the CCD only:
  - remove the old CCD from the MAIN BOARD
  - remove the new CCD from a new LENS AY
  - install the new CCD onto the MAIN BOARD
- New CCDs and UV-IR CUT FILTERS are available for replacement parts.

Figure 3 LENS and FRAME AYs

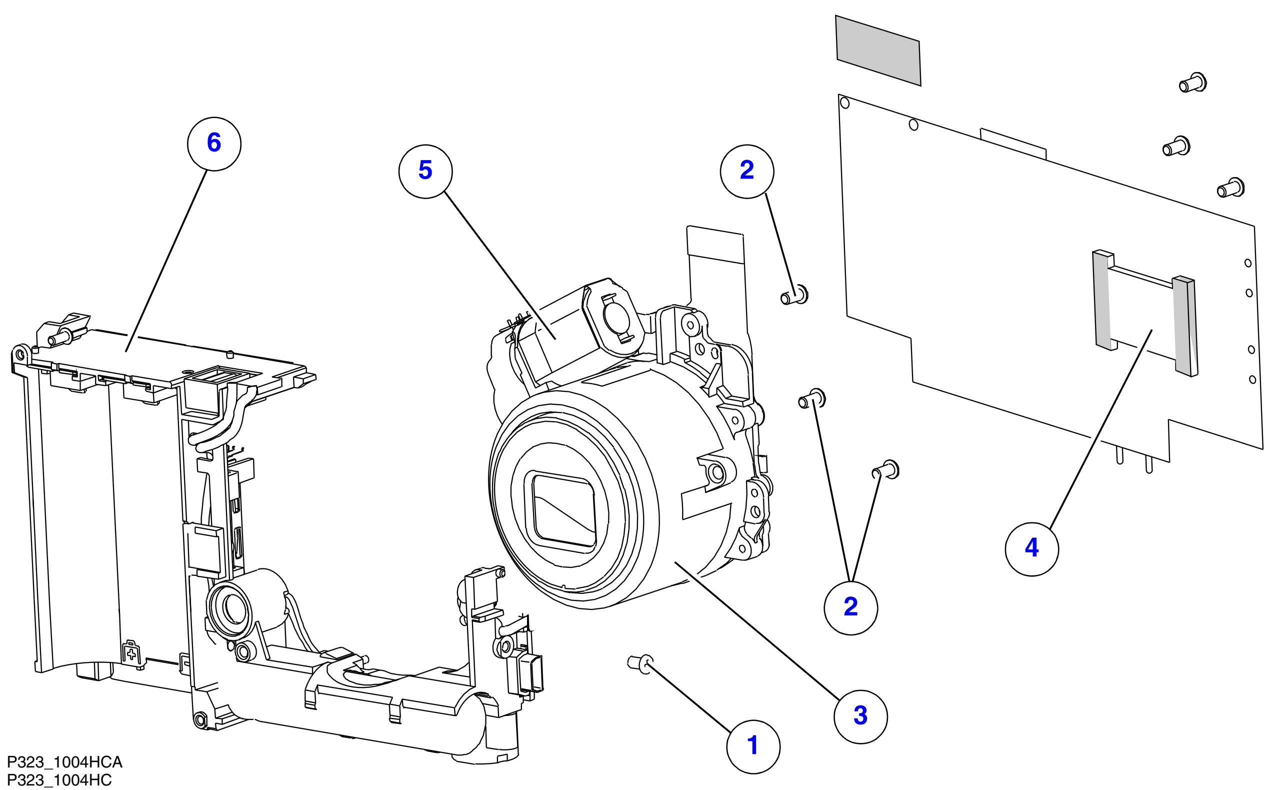


Figure 3 LENS and FRAME AYs

Item	Part No.	Description	Quantity	Notes
1	2F6924	SCREW - PTP, TAP, 1.7 x 3.5, H = 0.6, black	1	
2	3F9937	SCREW - PH, TAP, 1.7 x 4.0 Ni	3	For the LENS AY.
3	8H2134	LENS AY - with CCD	1	
	8H2146	LENS AY - without CCD	1	
4	8H2364	CCD	1	Includes the METAL PLATE.
5	- - - -	TAPE - *Mylar*	1	For the LENS MOTOR.
6	8H2135	FRAME AY	1	
	8H2366	FILTER - UV-IR cut	1	Not visible in the graphic.

Section 2: Alphabetical Index

Alphabetical Index

Section 3: Diagnostics

Error Codes

There are no error codes for this CAMERA.

Troubleshooting

LENS AY

Description	Recommended Action
• The LENS does not retract or extend during energizing or de-energizing. • An error code displays during the zoom.	1. Check the FPC CABLE from the MOTOR to J500 CONNECTOR on the MAIN BOARD. 2. If necessary, do a replacement of: • LENS AY • MAIN BOARD

LCD

Description	Recommended Action
The LCD does not energize.	1. Check the FPC from the LCD to CONNECTOR J400 on the MAIN BOARD. 2. If necessary, do a replacement of: • LCD • MAIN BOARD
• The LCD energizes, but the screen is blank. • Horizontal or vertical lines display on the LCD. • Malfunction of pixels occurs on the LCD.	1. Check: • FPC from LCD to CONNECTOR J400 on the MAIN BOARD • SOLDER JOINTS of the CCD on the MAIN BOARD 2. If necessary, do a replacement of: • LCD • LENS AY • MAIN BOARD
The video function is not operating correctly.	1. Check: • FPC from LCD to CONNECTOR J400 on the MAIN BOARD • SOLDER JOINTS of the CCD on the MAIN BOARD 2. If necessary, do a replacement of: • LCD • MAIN BOARD

LED

Description	Recommended Action
The STATUS LED does not illuminate.	1. Check the SOLDER from the SHUTTER BOARD to the MAIN BOARD. 2. If necessary, do a replacement of: • LED • MAIN BOARD
The SELF-TIMER LED does not operate correctly.	1. Check the SOLDER of the LED CABLE on the MAIN BOARD. 2. If necessary, do a replacement of: • LED • MAIN BOARD

FLASH

Description	Recommended Action
The FLASH does not energize.	1. Check that the correct mode of the FLASH is selected. 2. Measure the voltage of the STROBE CAPACITOR across both ends of the LAMP. The voltage should be > 300 V. 3. Check that the TRIGGER WIRE is soldered correctly. 4. If necessary, do a replacement of: • SHUTTER BOARD • FLASH LAMP
The FLASH operates in the “Fill Flash” mode, but does not operate in the “Auto Flash” mode.	1. Check the brightness of the environment. 2. If necessary, do a replacement of the SHUTTER BOARD.
Smoke emits from the CAMERA when the FLASH is actuated.	• Check: – connection of the metal PLATE between the CAPACITOR AY and the SHUTTER BOARD – FLASH COVER or REFLECTOR AY has no debris • If necessary, do a replacement of the SHUTTER BOARD.
The LAMP for the FLASH is dark.	1. Check the connection of the metal PLATE between the FLASH AY and the SHUTTER BOARD. 2. If necessary, do a replacement of: • CAPACITOR AY that includes the FLASH AY • SHUTTER BOARD

MEMORY CARD

Description	Recommended Action
The CAMERA does not recognize the MEMORY CARD.	1. Use a new MEMORY CARD. 2. Check: • "Image Storage" option is set to "Auto" • SOCKET of the MEMORY CARD on the MAIN BOARD has no damage 3. If necessary, do a replacement of the MAIN BOARD.
Images are not stored on the MEMORY CARD.	1. Use a new MEMORY CARD. 2. Check: • position of the WRITE PROTECT SWITCH on the MEMORY CARD • "Image Storage" option is set to "Auto" • SOCKET of the MEMORY CARD on the MAIN BOARD has no damage 3. Format the MEMORY CARD and capture an image again. 4. If necessary, do a replacement of the MAIN BOARD.

Power

Description	Recommended Action
The CAMERA does not energize.	1. Check: • power source for the CAMERA • SOLDER JOINTS of the BATTERY CONTACTS to the MAIN BOARD • FUSE F600 on the MAIN BOARD. If necessary, install a new FUSE. 2. Diagnose the MODULE that has the malfunction. • Disconnect all MODULES from the MAIN BOARD. • Connect the MODULES one at a time, until the FUSE opens. 3. If necessary, do a replacement of: • MAIN BOARD • SHUTTER BOARD

Image Quality

Description	Recommended Action
The image on the LCD is not in focus.	1. Check: • results of the “LENS AY, MAIN BOARD: Auto Focus - “EFA”” on Page 38 test are within the specification for the CAMERA • FPC CABLE from the MOTOR to J500 CONNECTOR on the MAIN BOARD 2. If necessary, do a replacement of: • LENS AY • MAIN BOARD
• The images are black. • The color of the image is not correct.	1. Check the SOLDER JOINTS of the CCD on the MAIN BOARD. 2. If necessary, do a replacement of: • LENS AY • MAIN BOARD
• The images are too light. • The images are too dark.	1. Check the results of the “LENS AY, MAIN BOARD, STROBE BOARD AY - “Shutter Delay”” on Page 32. 2. If necessary, do a replacement of: • LENS AY • MAIN BOARD
The images have pixels that are continually energized.	Do a replacement of the MAIN BOARD.

Communication

Description	Recommended Action
The CAMERA does not download images from the USB PORT.	1. Connect the CAMERA to the computer to check for communication. 2. Check for damage to: • USB CONNECTOR to the PINS on the J600 on the MAIN BOARD • USB PORT 3. If necessary, do a replacement of the MAIN BOARD.

General Functions

Description	Recommended Action
One or more do not operate correctly: • “Zoom” BUTTON • “Delete” BUTTON • “Menu” BUTTON • “Info” BUTTON • “Review” BUTTON • 4-WAY BUTTON • “OK” BUTTON • “share” BUTTON	1. Check for damage to: • BUTTONS • UI PANEL AY inside the BACK COVER AY • UI CIRCUIT on the MAIN BOARD 2. If necessary, do a replacement of the MAIN BOARD.
The SHUTTER BUTTON does not operate correctly.	1. Check for damage to: • BUTTONS • SOLDER JOINTS from the SHUTTER BOARD to the MAIN BOARD 2. If necessary, do a replacement of the SHUTTER BOARD.

Diagnostic Tests

Checking the Date and Time Using the BACK-UP BATTERY

[1] Insert RECHARGEABLE BATTERIES with a full charge into the CAMERA to apply 3.7 V to the BACK-UP BATTERY or STORAGE CAPACITOR.

[2] Energize the CAMERA.

[3] Set the correct date and time.

[4] De-energize the CAMERA.

[5] Wait a minimum of 24 hours.

[6] Remove the RECHARGEABLE BATTERIES for more than 10 minutes.

[7] Insert the RECHARGEABLE BATTERIES into the CAMERA.

[8] Energize the CAMERA.

[9] Check the date and time.

Note

The date and time must be correct within 30 seconds.

Checking the Power On “SelfAndKeytest”

[1] Do “Preparing the “C140 Self_Test” MEMORY CARD” on Page 64.

[2] Insert into the CAMERA:

- BATTERIES with a full charge
- “C140_Self_Test” MEMORY CARD

[3] Energize the CAMERA to execute the test.

[4] If the LCD displays “Set Date & Time”, select “Cancel”.

[5] Check:

- LCD displays “Script Loading...”
- results of each of the following tests

Test	Check:
RBG and gray levels	The quality of the 6 colors and the 6 gray areas
“LED testing”	The red LED on the front of the CAMERA illuminates.
“LCD testing”	LCD blinks
“Flash testing”	STROBE energizes once
“SDRAM testing”	“OK” displays
“LCD Bad pixel testing”	LCD for: • dark pixels in the white screen • white pixels in the dark screen
“Temperature Sensor testing”	“OK” displays
SWITCHES	The names of the SWITCHES display on the LCD. Press each SWITCH. A green “O” displays for each successful test.

[6] When the test is completed, follow the prompt to press the “OK” BUTTON.

[7] De-energize the CAMERA.

[8] Remove the MEMORY CARD.

Checking the “Video&TVTest” Functions

[1] Do “Preparing the “C140 Video&TVTest” MEMORY CARD” on Page 63.

[2] Insert into the CAMERA:

- BATTERIES with a full charge
- “C140 Video&TVTest” MEMORY CARD

[3] Energize the CAMERA.

[4] If the LCD displays “Set Date & Time”, select “Cancel”.

[5] Check that “Script Loading...” displays on the LCD.

Note

The CAMERA records 4 seconds of video information automatically.

[6] When the LCD displays “Plug USB AV cable”, connect the A/V CABLE to:

- CAMERA
- TELEVISION

[7] Energize the TELEVISION.

[8] Check:

- LCD of the CAMERA de-energizes
- image is displayed on the TELEVISION

Note

The test checks the video function automatically.

[9] Does the LCD display “Rec Fail”?

Yes	No
a. Do Step 1 - Step 9 again. b. If the test is not successful again, install a new MAIN BOARD.	Continue with Step 10.

[10] Check the TELEVISION does:

- screen flashes once
- displays NTSC and PAL words

[11] Press the “OK” BUTTON.

[12] De-energize the CAMERA.

[13] Remove the MEMORY CARD from the CAMERA:

[14] Disconnect the A/V CABLE from:

- CAMERA
- TELEVISION

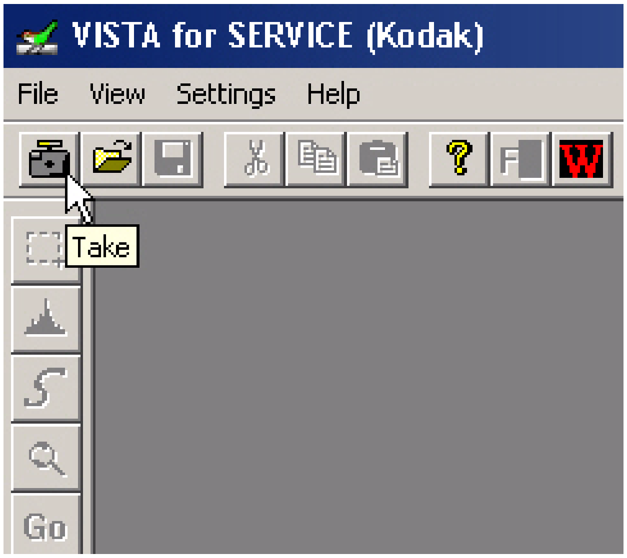
Checking for Uniform Flash

Caution

- Dangerous Voltage
- A dark room or the GEN 3 CUSTOM TEST FIXTURE can be used.
- The distance is measured from the surface of the TARGET to the front surface of the CAMERA.

[1] Use either:

GEN 3 CUSTOM TEST FIXTURE and new CAMERA PLATE, with Controlled Light	GEN 3 CUSTOM TEST FIXTURE with Controlled Light	Dark Room
a. If necessary, remove any DOCK from the GEN 3 ADAPTER PLATE. b. Adjust the GEN 3 CUSTOM TEST FIXTURE with: • TARGET FRAME T3 to the front • HORIZONTAL MEASURE TUBE “H” and “K” for T4 • VERTICAL MEASURE TUBE “J” for T1 • “X” axis to 400 • “Y” axis to 990 c. Place: • 18% gray TARGET in the TARGET FRAME T4 • new GEN 3 FIXTURE CAMERA PLATE on the GEN 3 ADAPTER PLATE • CAMERA on the new GEN 3 FIXTURE CAMERA PLATE with the POST of the CAMERA PLATE in the TRIPOD MOUNT of the CAMERA d. Insert BATTERIES with a full charge into the CAMERA. e. Connect the USB CABLE to: • CAMERA • computer f. Continue with Step 2.	a. If necessary, remove any DOCK from the GEN 3 ADAPTER PLATE. b. Adjust the GEN 3 CUSTOM TEST FIXTURE with: • TARGET FRAME T3 to the front • HORIZONTAL MEASURE TUBE “H” and “K” for T4 • VERTICAL MEASURE TUBE “J” for T1 • “X” axis to 600 • “Y” axis to 690 c. Place: • 18% gray TARGET in the TARGET FRAME T4 • CAMERA on the GEN 3 ADAPTER PLATE with the center POST of the ADAPTER PLATE in the TRIPOD MOUNT of the CAMERA d. Insert BATTERIES with a full charge into the CAMERA. e. Connect the USB CABLE to: • CAMERA • computer f. Continue with Step 2.	a. Insert BATTERIES with a full charge into the CAMERA. b. Connect the USB CABLE to: • CAMERA • computer c. Place: • CAMERA on the TRIPOD or flat surface • TARGET 1.0 m (39.4 in.) from the front surface of the CAMERA d. Continue with Step 2.



[2] Double-click the “Vista for Service” icon.

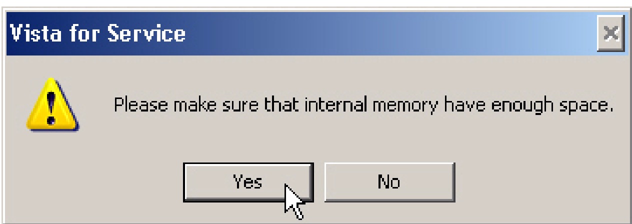
[3] At the same time, press and hold:

- “Tele” BUTTON
- “Review” BUTTON
- “On/Off” BUTTON

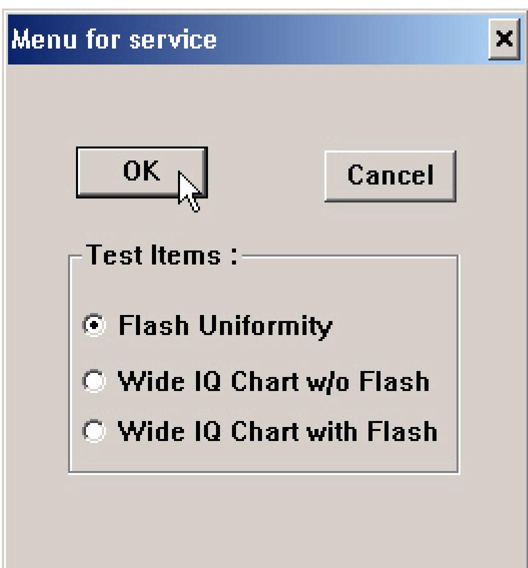
[4] Release the BUTTONS to energize the CAMERA.

[5] Click:

- “Take” icon
- [Yes]



[6] If a communication error displays, see the procedure “Checking the Connection to the SERVICE SOFTWARE” on Page 59.



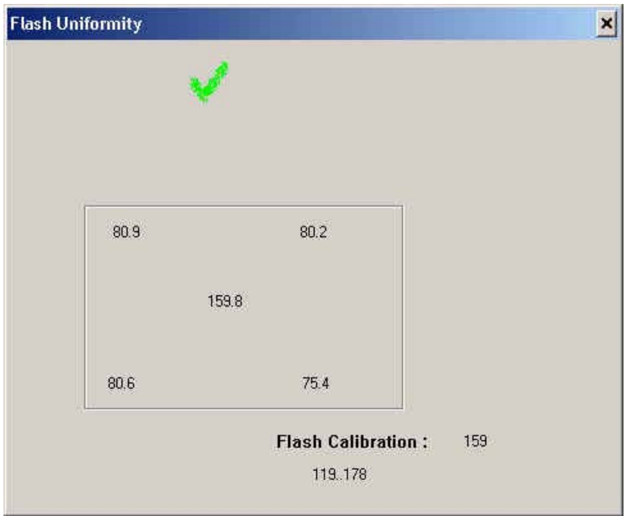
[7] Close the GEN 3 CUSTOM TEST FIXTURE.

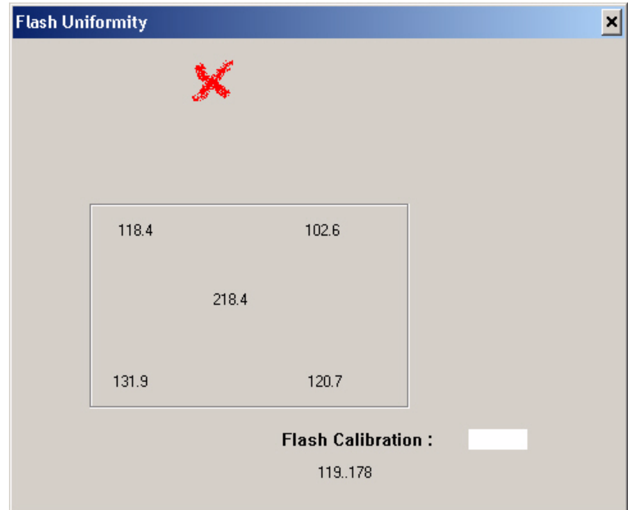
[8] Select “Flash Uniformity”.

[9] Click [OK].

Note

The flash actuates once.

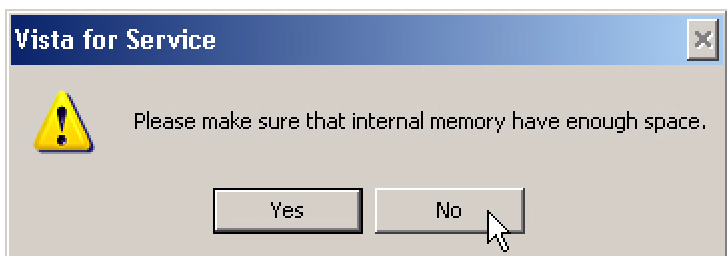




[10] Check the mark on the computer screen.

Green "✓"	**Red "X"**
The test was successful. Continue with Step 11.	a. A failure occurred. b. De-energize the CAMERA. c. Do "Checking for Uniform Flash" on Page 23 again. d. If the failure occurs again, check the setup of the hardware.

[11] Close the "Flash Uniformity" window.



[12] Click [No].

[13] Close the "VISTA for SERVICE (Kodak)" window.

Checkout Procedures

Checking the General Functions of the CAMERA

Caution

- Dangerous Voltage
- You must do these procedures before you return the CAMERA to the customer.

Checking the Power

[1] Install RECHARGEABLE BATTERIES that do not have a full charge into the CAMERA.

[2] Energize the CAMERA.

[3] Check that the CAMERA energizes.

[4] If the LCD displays the “Set Date & Time” options:

- select “Cancel”
- wait until the CAMERA completes energizing

[5] De-energize the CAMERA.

[6] Install a MEMORY CARD into the CAMERA.

[7] Energize the CAMERA.

[8] Check the energize sequence:

- LCD:
  - displays the “Auto” mode for approximately 4 seconds
  - does not display error codes
- LENS moves to the default “Wide” position

Checking the BUTTONS and SWITCHES

[1] Check the following BUTTONS and SWITCHES:

BUTTON/SWITCH	Do:
• “Menu” • 4-WAY • “OK” • SHUTTER	1. Press the “Menu” BUTTON. 2. Check that the LCD displays options. 3. Press: • 4-WAY BUTTON up or down to move through the menu • “OK” BUTTON to select an option • “OK” BUTTON again to return to the screen before • “Menu” BUTTON to quit • “Menu” BUTTON • SHUTTER BUTTON 4. Check: • CAMERA quits the menu • image is captured • image displays on the LCD 5. Capture one more image.

BUTTON/SWITCH	Do:
• "Review" • "share"	1. Press the "Review" BUTTON. 2. Check that the LCD illuminates. 3. Press: • 4-WAY BUTTON left and right to display the images • "share" BUTTON 4. If the "share" description displays, press "OK". 5. Check that the "Favorites" icon displays in the lower left corner of the image. 6. Press: • "share" BUTTON again to quit • SHUTTER BUTTON 7. Check: • CAMERA quits the "Review" mode • image is captured • image displays on the LCD
"Flash"	1. Check that the "Flash" icon displays in red in the top left corner. 2. Press the 4-WAY BUTTON up and down to check that the "Flash" icon changes to: • "Auto Flash" • "Fill Flash" • "Red Eye" • "Flash Off" 3. Select "Flash On". 4. Press the SHUTTER BUTTON. 5. Check: • that the image is captured with the STROBE • that the image displays on the LCD 6. Press the 4-WAY BUTTON up and down to check that the "Flash" icon changes to "Flash Off". 7. Press the SHUTTER BUTTON. 8. Check: • that the image is captured without the STROBE • that the image displays on the LCD

BUTTON/SWITCH	Do:
"Delete"	1. Press: • "Review" BUTTON • "Delete" BUTTON 2. Check that options display. 3. Select the "Exit" option. 4. Press: • "OK" BUTTON to quit the "Delete" screen • "Review" BUTTON to return to the "Auto" mode • "Review" BUTTON again • "Delete" BUTTON • SHUTTER BUTTON to capture an image 5. Check: • CAMERA quits the "Delete" screen • image is captured • image displays on the LCD 6. Press the "Delete" BUTTON. 7. Use the 4-WAY BUTTON to select "Yes". 8. Press: • "OK" BUTTON • "Review" BUTTON 9. Use the 4-WAY BUTTON to check that the image is removed. 10. Press the "Review" BUTTON to quit.
"Zoom"	1. Press the "Zoom" BUTTON toward "T". 2. Check that the LENS moves to the "Tele" position. 3. Press the SHUTTER BUTTON to the "S1" position. 4. Check that the image on the LCD has focus. 5. Press the SHUTTER BUTTON to capture an image. 6. Check that the image has focus. 7. Press the "Zoom" BUTTON toward "W". 8. Check that the LENS moves to the "Wide" position. 9. Press the SHUTTER BUTTON to the "S1" position. 10. Check that the image on the LCD has focus. 11. Press the SHUTTER BUTTON to capture an image. 12. Check that the image has focus.
"Info"	1. Check that the LCD displays: • icon for the capture mode • icon for the flash mode • number of additional images that can be captured 2. Press the "Info" BUTTON. 3. Check that additional icons display. 4. Press the "Info" BUTTON again to quit.

[2] Check the MODE BUTTON.

MODE	Do:
"Video" **Note** This procedure also does a test of the MICROPHONE.	1. Press: • MODE BUTTON • 4-WAY BUTTON to the "Video" icon • "OK" BUTTON 2. Press and release the SHUTTER BUTTON. 3. During the video recording, check: • "Rec" on the LCD flashes • recording time displays on the LCD 4. Speak some words to make an audio file. 5. Press and release the SHUTTER BUTTON. 6. Check that the LCD displays "Play Video". 7. Press the "OK" BUTTON. 8. Check that the video file plays back. 9. Press the "OK" BUTTON. 10. Check that the video stops. 11. Press the "OK" BUTTON again to continue the play back. 12. When the play back is complete, check that the LCD returns to "Liveview" mode. **Note** The audio section of this video file is checked in the procedure "Checking the Communication and Audio Functions" on Page 30.
"SCN"	1. Press: • MODE BUTTON • 4-WAY BUTTON to the "SCN" icon • "OK" BUTTON 2. Press the 4-WAY BUTTON left and right. 3. Check: • selected icon changes to red • icon also displays in the top right corner of the LCD
"Blur Reduction"	1. Press: • 4-WAY BUTTON to "Blur Reduction" • "OK" BUTTON 2. Capture an image at the same time of shaking the CAMERA. 3. Check that the image displayed on the LCD has focus.

Checking the Firmware Version, ACTUATION, FLASH, and POWER-ON COUNTERS

[1] Make a folder with the name “HiddenMenu” on a blank MEMORY CARD.

[2] De-energize the CAMERA.

[3] Insert the MEMORY CARD into the CAMERA.

[4] Energize the CAMERA.

[5] Press:

- “Menu” BUTTON
- 4-WAY BUTTON to the right to place the cursor on “Setup”
- 4-WAY BUTTON up once to place the cursor on “About”
- “OK” BUTTON to select “About”

[6] Check the firmware version.

[7] At the same time, press:

- and hold the “Delete” BUTTON
- 4-WAY BUTTON to the right

[8] Release the BUTTONS.

[9] Check that the LCD displays “HIDDEN MENU”.

[10] Press:

- 4-WAY BUTTON to “TOTAL INFO”
- “OK” BUTTON

[11] Record the information for the COUNTERS in the FEEDBACK SOFTWARE.

Display	Description
“ID”	Serial Number
“Boot”	Boot Code Version
“MCU”	Microprocessor Code Version
“Total Shot”	Actuations
“Total Strobe”	Strobe Count
“Total Power On”	Power-on Count
“BATPWR”	Battery Power

[12] Press:

- 4-WAY BUTTON to the left 2 times
- “Menu” BUTTON to quit

Checking the Communication and Audio Functions

[1] Connect the CAMERA to the computer with the USB CABLE.

[2] Download the images and the video file with the USER SOFTWARE.

[3] Check the quality of the images.

[4] To check for the correct operation of the MICROPHONE during the video recording, play back the video file on the computer and listen to the audio file.

Note

If successful, the following are operating correctly:

- USB CONNECTOR on the MAIN BOARD
- MICROPHONE

[5] De-energize the CAMERA.

Checking the External Components of the CAMERA

[1] Check the COVERS of the CAMERA for scratches.

[2] If necessary, install new COVERS.

[3] Clean:

- COVERS
- SCREEN on the LCD
- FLASH COVER

[4] Check and clean the LENS.

Section 4: Adjustments

LENS AY, MAIN BOARD, STROBE BOARD AY - “Shutter Delay”

Adjustment Specification

Caution

- Dangerous Voltage
- This calibration procedure must be run first on every CAMERA, including the MASTER CAMERA.

Purpose:	To set the parameters for the speed of the SHUTTER.
Do When:	• After installing a new: – LENS AY – CCD – MAIN BOARD – STROBE BOARD AY • Exposure of the images displayed on the LCD is too high or too low.
Specification:	No failure messages or red screen display.
Special Tools:	• Computer with a MEMORY CARD READER/WRITER • BATTERIES with a full charge for the CAMERA • LIGHT BOX • MEMORY CARD

Prerequisites:

None

To Check:

You cannot check this adjustment.

To Adjust:

[1] Do Preparing the “C140 Shutter_Delay” MEMORY CARD on Page 61.

[2] Insert into the CAMERA:

- BATTERIES with a full charge
- “C140 Shutter_Delay” MEMORY CARD

Important

The LENS must:

- be placed in the center of the light
- not touch the screen of the LIGHT BOX

[3] Place the CAMERA in front of the LIGHT BOX.

[4] Set the LIGHT BOX to LV15.0.

[5] Energize the CAMERA.

[6] If the LCD displays “Set Date & Time”, select “Cancel”.

[7] Check that “Script Loading...” displays on the LCD.

[8] When the test is completed, check that the LCD displays:

- "Small Aperture" and a number
- "Big Aperture" and a number
- "Shutter Calibration OK"
- "Save OK"

[9] Press the "OK" BUTTON.

[10] De-energize the CAMERA.

[11] Remove the MEMORY CARD from the CAMERA.

[12] Did the LCD display a red screen?

Yes	No
a. Do Step 1 - Step 12 again up to 3 times. b. If the test has a failure again, do a replacement of the CAMERA.	The procedure is complete.

Postrequisites:

None

MASTER CAMERA - “Calibration of the MASTER CAMERA”

Adjustment Specification

Caution

- Dangerous Voltage
- This procedure is only run with a MASTER CAMERA to make the calibration files.

Purpose:	To set the values for the LIGHT BOX using the MASTER CAMERA.
Do When:	Before calibrations of this type of CAMERA.
Specification:	No failure messages display.
Special Tools:	• Computer with a MEMORY CARD READER/WRITER • BATTERIES with a full charge • LIGHT BOX • MEMORY CARD

Prerequisites:

[1] Do LENS AY, MAIN BOARD, STROBE BOARD AY - “Shutter Delay” on Page 32 with the MASTER CAMERA.

To Check:

You cannot check this adjustment.

To Adjust:

[1] Do Preparing the “C140 Master Camera” MEMORY CARD on Page 61.

[2] Insert into the MASTER CAMERA:

- BATTERIES with a full charge
- “C140 Master Camera” MEMORY CARD with the “Batch_Lamp” files

Important

The LENS must:

- be placed in the center of the light.
- not touch the screen of the LIGHT BOX.

[3] Place the CAMERA in front of the LIGHT BOX.

[4] Set the LIGHT BOX to:

- LV10.0
- color temperature 4800 K

[5] Energize the CAMERA to execute the test.

[6] If the LCD displays “Set Date & Time”, select “Cancel”.

[7] Select “Master Big Lamp”.

[8] Press the “OK” BUTTON.

[9] When the test is completed, check that the LCD displays:

- “Done”
- “ISO Calibration Success”

[10] De-energize the CAMERA.

Important

- 2 additional files are written to the MEMORY CARD.
- If you have only one LIGHT BOX, you must do this section of the calibration with the same LIGHT BOX.
- If you have more than one LIGHT BOX, you must do this section of the calibration with the other LIGHT BOX.

[11] Do Step 5 to Step 6 again to run the 2nd section of the calibration.

[12] Select “Master Small Lamp”.

[13] Press the “OK” BUTTON.

[14] If necessary, use the “Zoom” BUTTON to set the “Small Lamp” number to 1.

[15] Press the “Delete” BUTTON to execute the test.

[16] When the test is completed, check that the LCD displays “ISO Calibration Success”.

[17] De-energize the CAMERA.

[18] Remove the MEMORY CARD.

Note

- The additional file “Small_Lamp_WK8_1.fig” was written on the MEMORY CARD.
- If you have more than one LIGHT BOX, you must remove the file “Small_Lamp_WK8_1.fig” from the MEMORY CARD and do the calibration with the other LIGHT BOX.
- The additional files made by this procedure are necessary before you do Preparing the “C140 ISO_DBP_Shading” MEMORY CARD on Page 62.

[19] If the LCD displays a failure message, do the correction:

Failure	Cause	Correction
“W/O Shutter K”	The calibration of the SHUTTER was not correct.	Do: 1. “Preparing the “C140 Shutter_Delay” MEMORY CARD” on Page 61 2. Preparing the “C140 Master Camera” MEMORY CARD on Page 61 again
“Memory Fail”	A failure occurred during a test of the memory.	1. Do Preparing the “C140 Master Camera” MEMORY CARD on Page 61 again. 2. If the message occurs again, use a new MASTER CAMERA.
“ISO Cal Fail”	A failure occurred during the calibration.	1. Check: • LIGHT BOX • LV value 2. Do Preparing the “C140 Master Camera” MEMORY CARD on Page 61 again. 3. If necessary, use a new MASTER CAMERA.

Postrequisites:

None

LENS AY, MAIN BOARD: CCD - “ISO_DBP_Shading”

Adjustment Specification

Caution
Dangerous Voltage

Purpose:	To set the values for ISO, Dark Bad Pixels and Automatic White Balance of the CAMERA.
Do When:	After installing a new: • CCD • LENS AY • MAIN BOARD
Specification:	• The failure messages do not display. • “ISO Calibration Success” displays. • “DBP Calibration Success” displays.
Special Tools:	• Computer with a MEMORY CARD READER/WRITER • BATTERIES with a full charge • LIGHT BOX • MEMORY CARDS

Prerequisites:

[1] Do:

- LENS AY, MAIN BOARD, STROBE BOARD AY - “Shutter Delay” on Page 32
- MASTER CAMERA - “Calibration of the MASTER CAMERA” on Page 34

To Check:

You cannot check this adjustment.

To Adjust:

[1] Do “Preparing the “C140 ISO_DBP_Shading” MEMORY CARD” on Page 62.

[2] Insert into the CAMERA:

- BATTERIES with a full charge
- “C140 ISO_DBP_Shading” MEMORY CARD with the files and folders on the “C140 master camera” MEMORY CARD from the procedure “MASTER CAMERA - “Calibration of the MASTER CAMERA”” on Page 34

Important

- The prepared MEMORY CARD must be used to do the calibrations of the repaired CAMERAS.
- The LENS must:
  - be placed in the center of the light
  - not touch the screen of the LIGHT BOX

[3] Set the LIGHT BOX to LV10.

[4] Place the CAMERA in front of the LIGHT BOX.

[5] Energize the CAMERA.

[6] If the LCD displays “Set Date & Time”, select “Cancel”.

[7] Check that “Script Loading...” displays on the LCD.

[8] When the test is completed, check that the LCD displays “ISO_DBP Calibration Success”.

[9] Press the “OK” BUTTON.

[10] De-energize the CAMERA.

[11] Remove the MEMORY CARD from the CAMERA.

[12] If the LCD displays the failure message “ISO Cal Fail”:

- open the file “ISO_Result_WK8.txt” to determine the type of failure
- do the necessary correction

Failure	Cause	Correction
“W/O Shutter K”	The calibration of the SHUTTER was not correct.	Do: 1. LENS AY, MAIN BOARD, STROBE BOARD AY - “Shutter Delay” on Page 32 2. LENS AY, MAIN BOARD: CCD - “ISO_DBP_Shading” on Page 36 again
“Memory Fail”	A failure occurred during a test of the memory.	1. Do LENS AY, MAIN BOARD: CCD - “ISO_DBP_Shading” on Page 36 again. 2. If the message occurs again, install a new MAIN BOARD.
“ISO Cal Fail”	A failure occurred during the calibration.	1. Check: • LIGHT BOX • LV value 2. Do LENS AY, MAIN BOARD: CCD - “ISO_DBP_Shading” on Page 36 again. 3. Install a new LENS AY. 4. If necessary, install a new MAIN BOARD.

Postrequisites:

None

LENS AY, MAIN BOARD: Auto Focus - “EFA”

Adjustment Specification

Caution

Dangerous Voltage

Purpose:	To set the values for Automatic Focus.
Do When:	After installing a new: • CCD • LENS AY • MAIN BOARD
Specification:	The message “EFA OK” displays on the LCD.
Special Tools:	• Computer with a MEMORY CARD READER/WRITER • BATTERIES with a full charge • INFINITY COLLIMATOR VC-1100 • MEMORY CARDS

Prerequisites:

None

To Check:

You cannot check this adjustment.

To Adjust:

[1] Do “Preparing the “C140 EFA” MEMORY CARD” on Page 62.

[2] Insert into the CAMERA:

- BATTERIES with a full charge
- “C140 EFA” MEMORY CARD

[3] Place the CAMERA in front of the INFINITY COLLIMATOR.

[4] Energize the CAMERA.

[5] If the LCD displays “Set Date & Time”, select “Cancel”.

[6] Check that “Script Loading...” displays on the LCD.

[7] When the test is completed, check that the LCD displays “EFA OK”.

[8] De-energize the CAMERA.

[9] Remove the MEMORY CARD from the CAMERA.

[10] Did the LCD display the failure message “NG” and a red screen?

Yes	No
a. Do Step 2 - Step 10 again. b. If the LCD displayed the failure message “NG” again, install a new LENS AY. c. Do Step 2 - Step 10 again.	Continue with Step 11.

[11] Capture some images at a variation of zoom positions of the LENS.

[12] Review the images on the LCD.

[13] Check that the images are not too dark or too light.

[14] Press the “T” BUTTON to increase the magnification of the images to the maximum.

[15] Check that the images on the LCD have focus.

Postrequisites:

None

LENS AY, MAIN BOARD: CCD - “Run_In_WBP”

Adjustment Specification

Caution

Dangerous Voltage

Purpose:	To set the values for “White Bad Pixels”.
Do When:	After installing a new: • CCD • LENS AY • MAIN BOARD
Specification:	• “WBP” < 20,000 • The message “Calibration Success” displays on the LCD.
Special Tools:	• Computer with a MEMORY CARD READER/WRITER • BATTERIES with a full charge • black cloth or dark GEN 3 TEST FIXTURE • MEMORY CARD

Prerequisites:

None

To Check:

You cannot check this adjustment.

To Adjust:

[1] Do “Preparing the “C140 Run_In_WBP” MEMORY CARD” on Page 63.

[2] Insert into the CAMERA:

- BATTERIES with a full charge
- “C140 Run_In_WBP” MEMORY CARD

[3] Place the CAMERA in the dark GEN 3 TEST FIXTURE or with the black cloth covering the LENS.

[4] Energize the CAMERA.

[5] If the LCD displays “Set Date & Time”, select “Cancel”.

[6] Check that “Script Loading...” displays on the LCD.

[7] When the test is completed, check that the LCD displays:

- green screen
- “Calibration Success”
- “Take Image OK”

[8] De-energize the CAMERA.

[9] Remove the MEMORY CARD from the CAMERA.

[10] Did the LCD display a red screen and the failure message “Calibration Fail”?

Yes	No
a. Do Step 1 - Step 10 again. b. If the LCD displayed the failure message again, do Step 2 - Step 10 again, to 3 times total. c. If the LCD displayed the failure message again, for a total of 3 times, do a replacement of the CAMERA.	The procedure is complete.

Note

The CAMERA complies with the specification if the test is successful a minimum of once for 3 times run.

Postrequisites:

None

MAIN BOARD: Memory - “Reset”

Adjustment Specification

Caution

Dangerous Voltage

Purpose:	To set the values to the defaults.
Do When:	• After installing a new LCD. • Doing a reset might initialize the correct operation of the CAMERA.
Specification:	The settings are reset to the defaults.
Special Tools:	• Computer with a MEMORY CARD READER/WRITER • BATTERIES with a full charge • MEMORY CARD

Prerequisites:

None

To Check:

You cannot check this adjustment.

To Adjust:

[1] Do “Preparing the “C140 Reset” MEMORY CARD” on Page 64.

[2] Insert into the CAMERA:

- BATTERIES with a full charge
- “C140 Reset” MEMORY CARD

[3] Energize the CAMERA.

[4] If the LCD displays “Set Date & Time”, select “Cancel”.

[5] Check that “Script Loading...” displays on the LCD.

Note

When the images are loaded and test is completed, the CAMERA de-energizes automatically.

[6] Remove from the CAMERA:

- MEMORY CARD
- BATTERIES

[7] Install the BATTERIES into the CAMERA again.

[8] Energize the CAMERA.

[9] Does the LCD display the “Language” screen?

Yes	No
a. Select the language. b. Set the date and time.	a. De-energize the CAMERA. b. Remove the BATTERIES. c. Install the BATTERIES. d. Energize the CAMERA. e. If the LCD does not display the “Languages” screen, do Step 1 - Step 9 again. f. De-energize the CAMERA. g. Energize the CAMERA. h. If the LCD does not display the “Languages” screen again, do a replacement of the CAMERA.

Postrequisites:

None

MAIN BOARD, LCD - “Select LCD”

Adjustment Specification

Caution
Dangerous Voltage

Purpose:	To set the type of the LCD.
Do When:	• After installing a new MAIN BOARD. • Before installing a new LCD.
Specification:	No failure messages or red screen display.
Special Tools:	• Computer with a MEMORY CARD READER/WRITER • BATTERIES for the CAMERA • MEMORY CARD

Prerequisites:

None

To Check:

You cannot check this adjustment.

To Adjust:

[1] Do Preparing the “Select LCD” MEMORY CARD on Page 63.

[2] Insert into the CAMERA:
- BATTERIES with a full charge
- “C140 Select LCD” MEMORY CARD

[3] Energize the CAMERA.

[4] If the LCD displays “Set Date & Time”, select “Cancel”.

[5] Check that “Script Loading...” displays on the LCD.



Important
The replacement LCD is the type *AUO*.

[6] When the test menu displays, select the correct type of LCD.

[7] Press the “OK” BUTTON.

[8] De-energize the CAMERA.

[9] Remove the MEMORY CARD from the CAMERA.

[10] Energize the CAMERA to check that the LCD displays information correctly.

[11] De-energize the CAMERA.

Postrequisites:

None

MAIN BOARD: Memory - "Serial Number"

Adjustment Specification

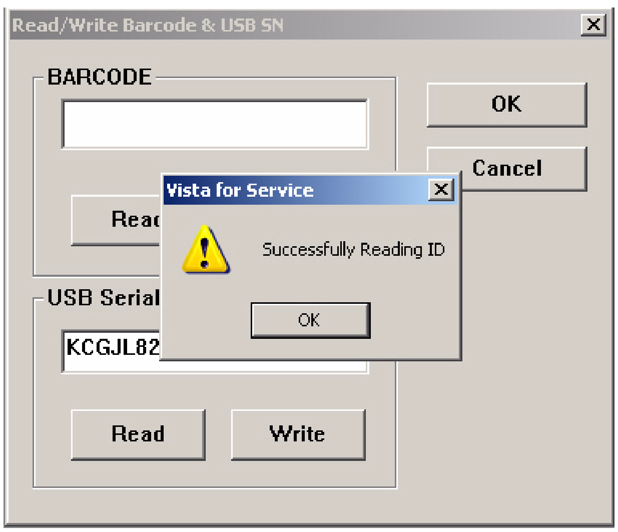
Caution
Dangerous Voltage

Purpose:	To set the serial number.
Do When:	After installing a new MAIN BOARD.
Specification:	The software displays "Successfully Writing ID".
Special Tools:	• Computer with a MEMORY CARD READER/WRITER • BATTERIES with a full charge

Prerequisites:

None

To Check:



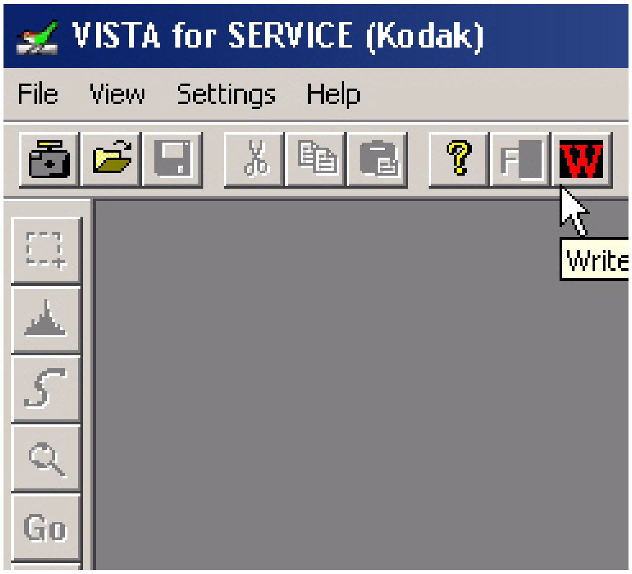
[1] Do Step 2 - Step 7 of the procedure "To Adjust".

[2] Click [Read].

[3] Check the "USB Serial Number" field for the serial number.

[4] Click [OK].

To Adjust:



[1] Insert BATTERIES with a full charge into the CAMERA:

[2] Connect the USB CABLE to the computer.

[3] Double-click the "Vista for Service" icon.

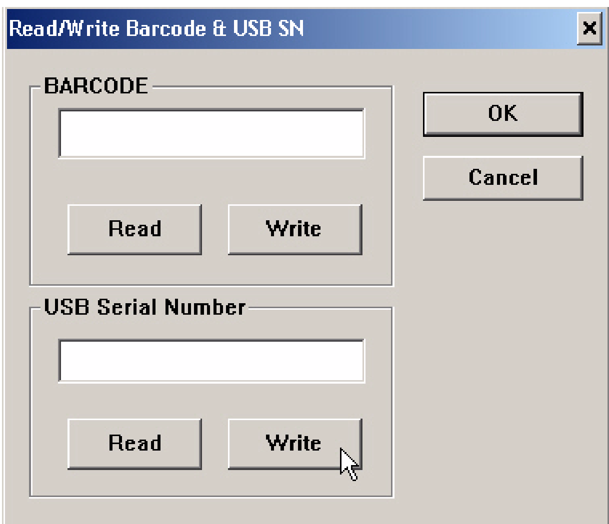
[4] At the same time, press and hold:

- "Tele" BUTTON
- "Review" BUTTON
- "On/Off" BUTTON

[5] Release the BUTTONS to energize the CAMERA.

[6] If the LCD displays "Set Date & Time", select "Cancel".

[7] Connect the USB CABLE to the CAMERA.

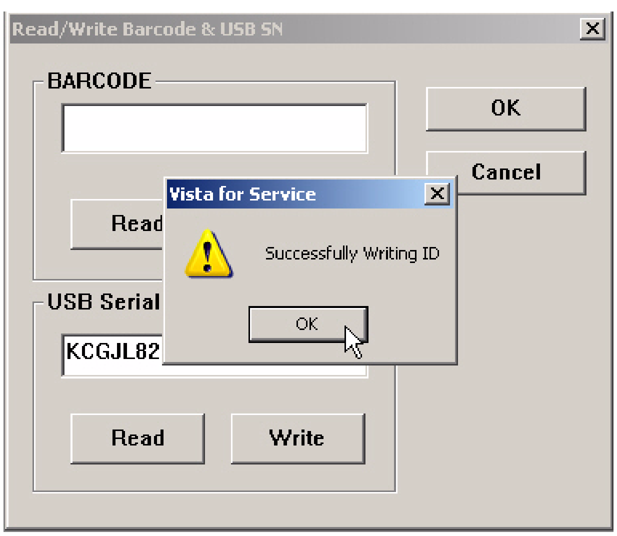


[8] Click the "Write" icon.

[9] Click [Write] in the "USB Serial Number" section.

[10] Type the serial number in the "USB Serial Number" field.

[11] Click [Write] again.



[12] Check that "Successfully Writing ID" displays.

[13] Click:

- [OK]
- [OK] to close the "Read/Write Barcode & USB SN" window

[14] Close the "VISTA for SERVICE (Kodak)" window.

[15] De-energize the CAMERA.

[16] Disconnect the USB CABLE from the CAMERA.

[17] Do "Checking the Firmware Version, ACTUATION, FLASH, and POWER-ON COUNTERS" on Page 30.

Postrequisites:

None

Section 5: Replacements

LCD

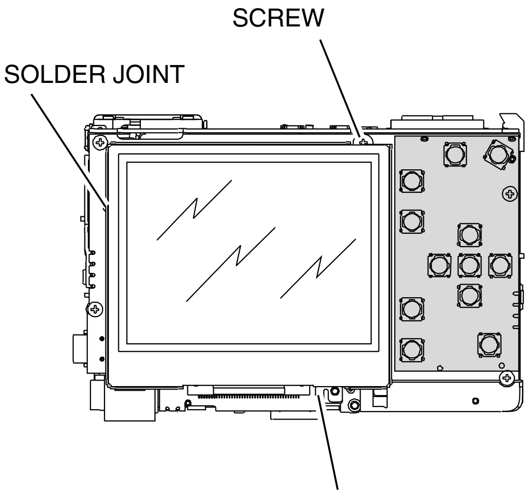
Prerequisites:

[1] Do the procedure “MAIN BOARD, LCD - “Select LCD”” on Page 44.

[2] See the “COVER AYs, BATTERY DOOR AYs and LCD” on Page 9. Remove:

- BACK COVER AY
- FRONT COVER AY

To Remove:



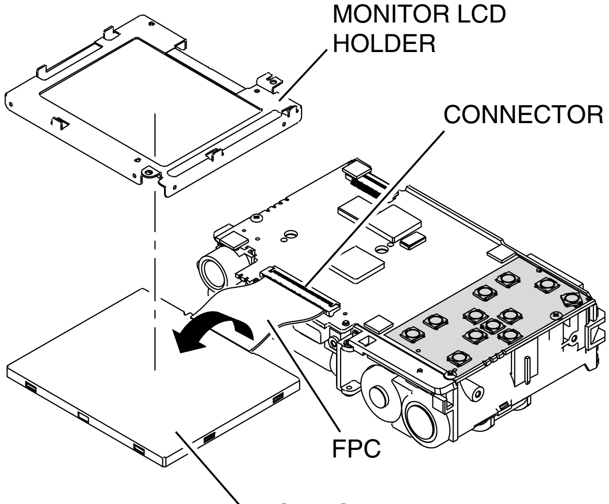
P291_1006ACB
P291_1006AC

Caution
Dangerous Voltage

[1] Do a discharge of the FLASH CAPACITOR.

[2] Remove:

- 3 SOLDER JOINTS
- SCREW



P291_1007ACA
P291_1007AC

[3] Remove the LCD HOLDER.

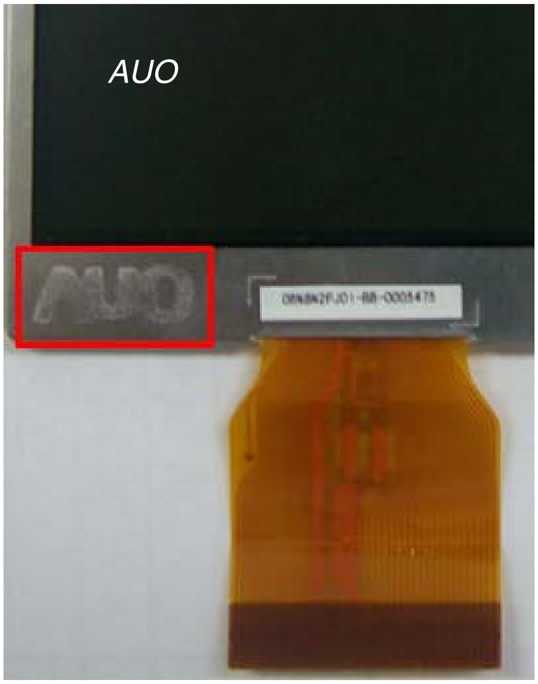
[4] Do a complete turnover of the LCD.

[5] Disconnect the FPC from the CONNECTOR.

[6] Remove the LCD.

Important

- The replacement LCD is the type *AUO*.
- The LCD that is removed from the CAMERA might not be the type *AUO*.



[7] See the graphic for an example of the type.

To Install:

[1] Reverse the steps in the removal procedure.

Postrequisites:

None

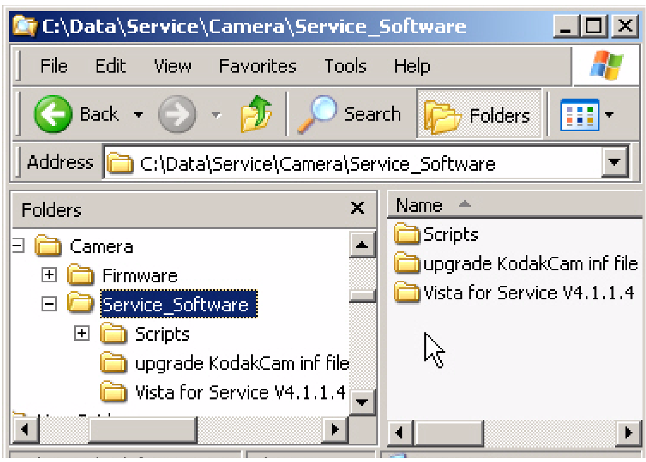
Section 6: Additional Service Procedures

Downloading the Files from the Partner Site

[1] From the Kodak Partner site, download the software and firmware files from *Kodak EasyShare* C140/CD93 DIGITAL CAMERA - Software and Firmware.

[2] Right-click the file “C140_Software_and_Firmware.zip”.

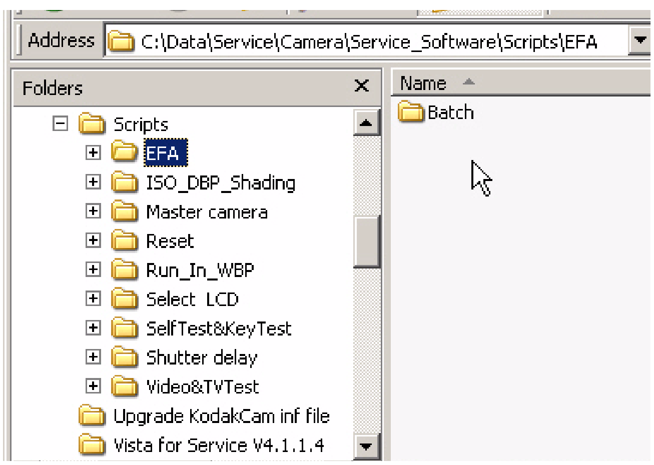
[3] Select **WinZip>Extract to here**.



[4] Open the folder “Service_Software”.

[5] Check for the folders:

- “Scripts”
- “upgrade KodakCam inf file”
- “Vista for Service V4.1.1.4”



[6] Open the folder “Scripts”.

[7] Check for the 9 folders.

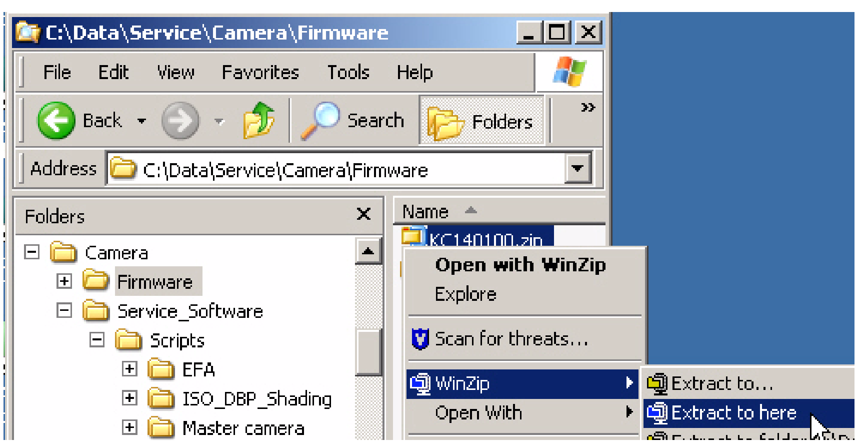
- “Service_Software”
- “Scripts”

[8] Open the folder “Firmware”.

[9] Right-click the “KC140xxx.zip” file.

[10] Select **WinZip>Extract to here**.

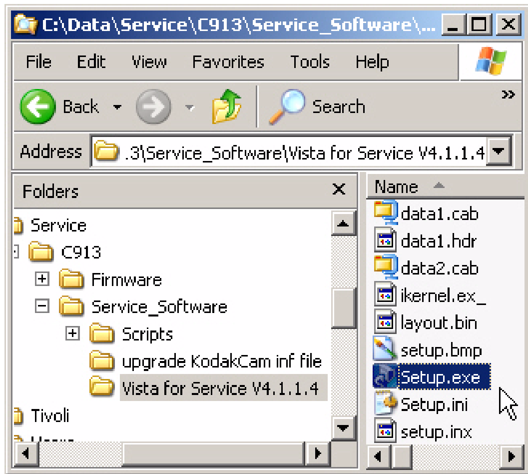
[11] Check for the firmware file “KC140.fw”.



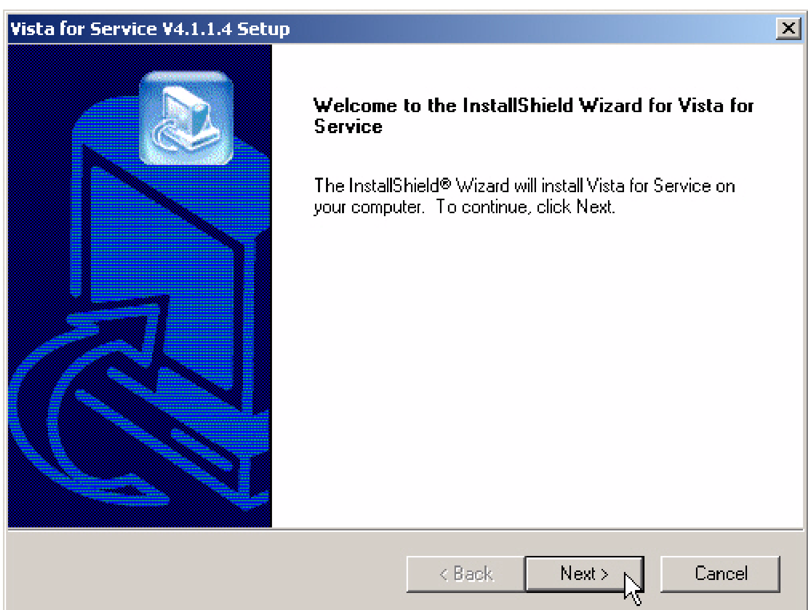
Installing the *Altek Vista* SERVICE SOFTWARE on the Computer

Important

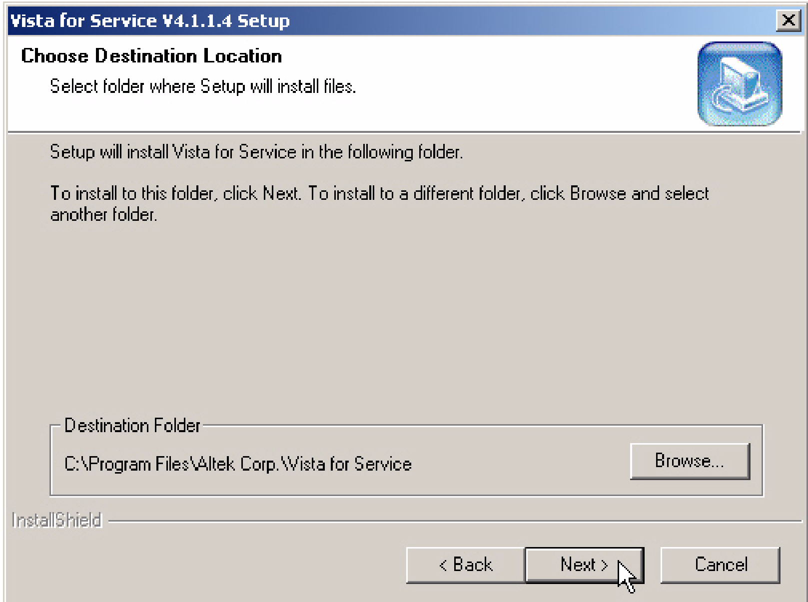
- *Microsoft Windows* XP OPERATING SYSTEM is necessary for the correct operation of the SERVICE SOFTWARE.
- If an older “Vista for Service” is installed on the computer, you must remove that software before you continue with this procedure.



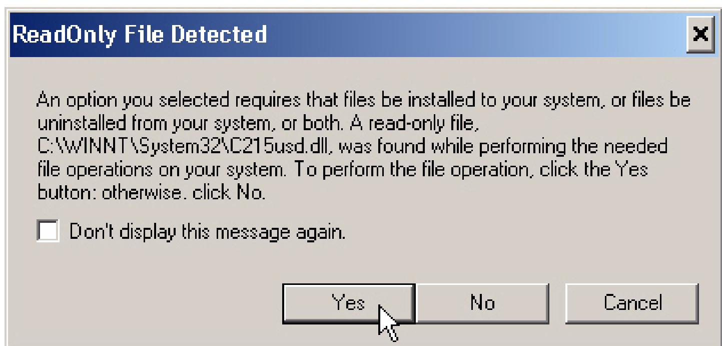
[1] From the folder “Vista for Service V4.1.1.4”, double-click “Setup.exe”.



[2] Click [Next].



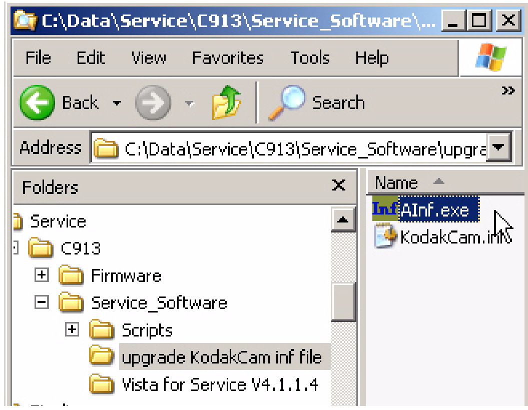
[3] Click [Next].



[4] If the error “ReadOnly File Detected” occurs, click [Yes].

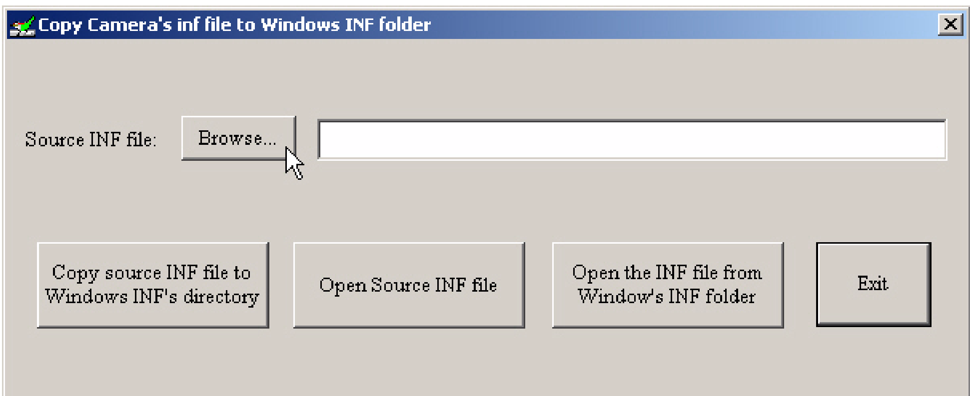


[5] Check that an icon for the “Vista for Service” appears on the computer screen.

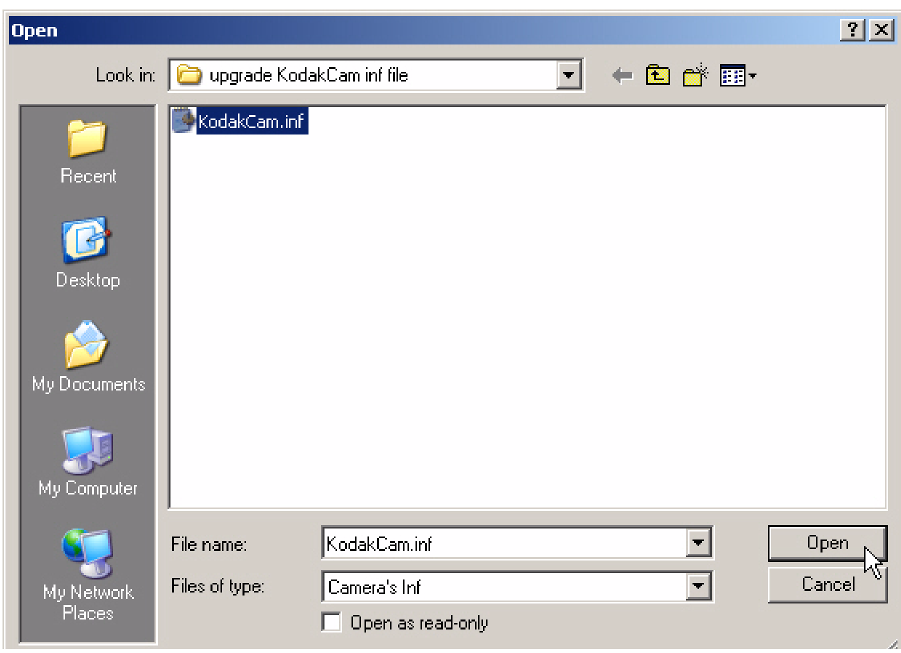


[6] Open the folder “upgrade KodakCam inf file”.

[7] Double-click the file “AInf.exe”.

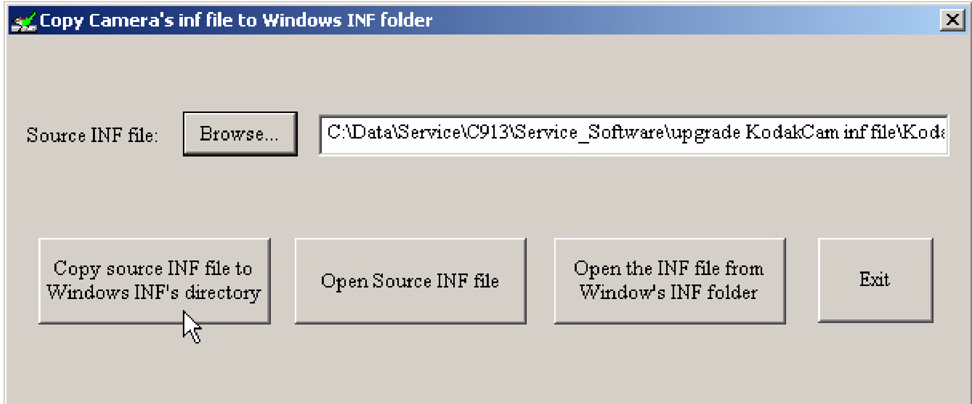


[8] Click [Browse...].



[9] Select the file “KodakCam.inf”.

[10] Click [Open].



[11] Click:

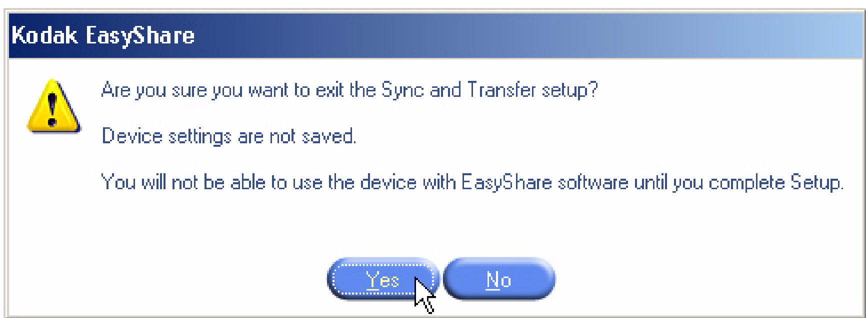
- [Copy source INF file to Windows INFs directory]
- [Exit]

[12] On the CAMERA, press at the same time the BUTTONS:

- “Review”
- “Zoom”
- “On/Off”

[13] Release the BUTTONS to energize the CAMERA.

[14] Connect the CAMERA to the computer with the USB CABLE.



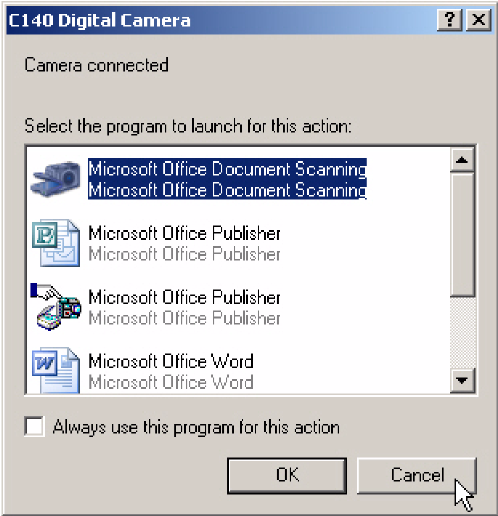
[15] If the *Kodak EasyShare* SOFTWARE detects the CAMERA, click:

- [Cancel]
- [Yes]

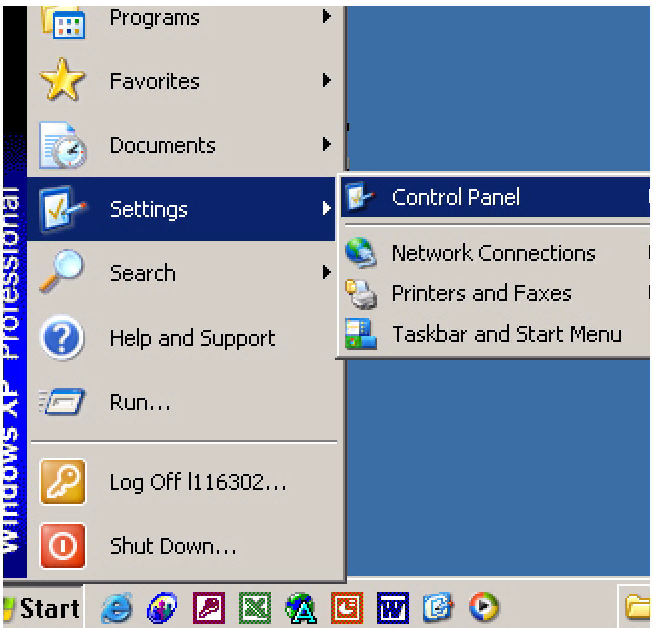
[16] At the lower right edge of the computer screen, right-click on the “Kodak” icon.



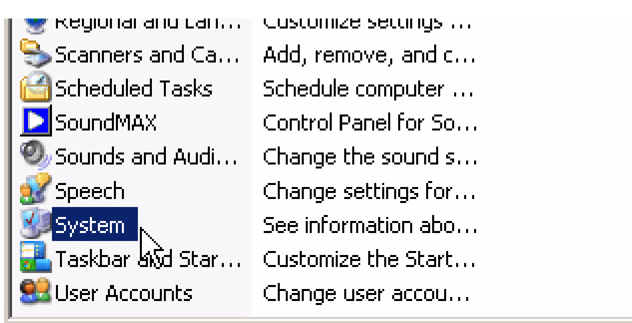
[17] Select “Shut Down Kodak EasyShare software”.



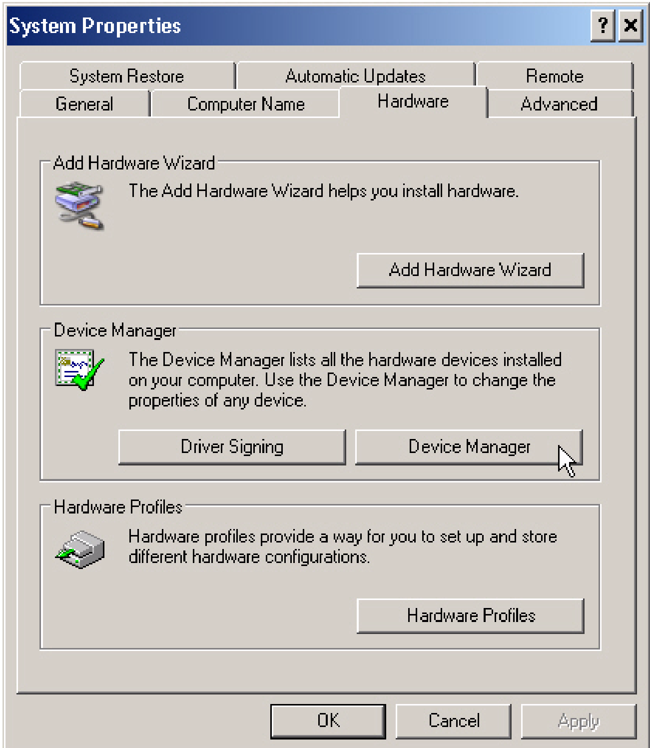
[18] If the screen displays, click [Cancel].



[19] Select **Start>Settings>Control Panel.**

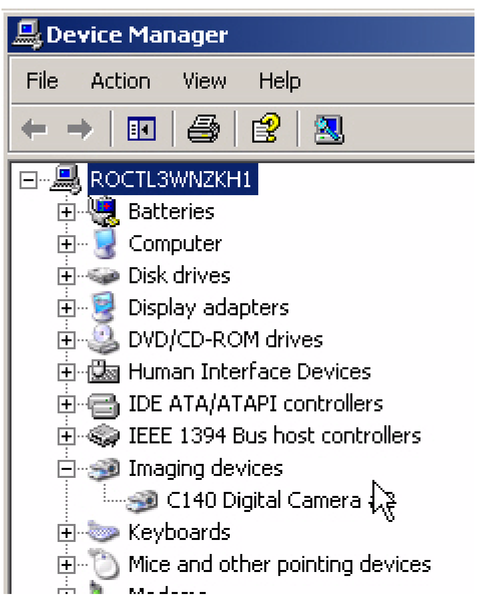


[20] Double-click the “System” icon.



[21] At the "System Properties" window, select the "Hardware" tab.

[22] Click [Device Manager].



[23] Double-click the "Imaging devices" icon.

[24] Check that "C140 Digital Camera" displays.

[25] Close all windows.

[26] De-energize the CAMERA.

[27] Remove the USB CABLE from the CAMERA.

[28] When the computer displays the "Desktop", double-click the "Vista for Service" icon.

[29] Energize the CAMERA.

[30] Connect the USB CABLE to the CAMERA.

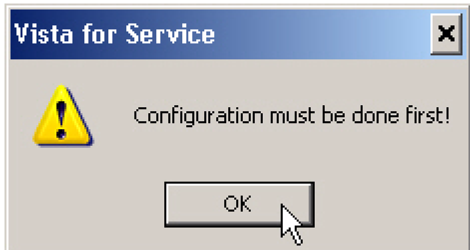
[31] Continue with "Doing the Configuration of the SERVICE SOFTWARE" on Page 56.

Doing the Configuration of the SERVICE SOFTWARE

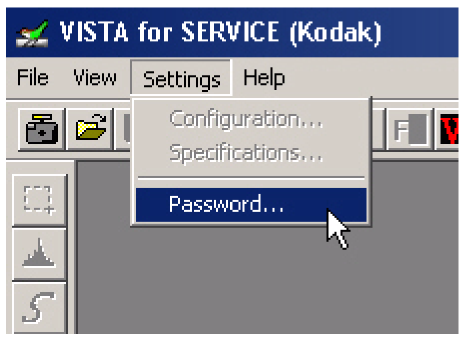
Important

You must do this procedure before the SERVICE SOFTWARE can be used.

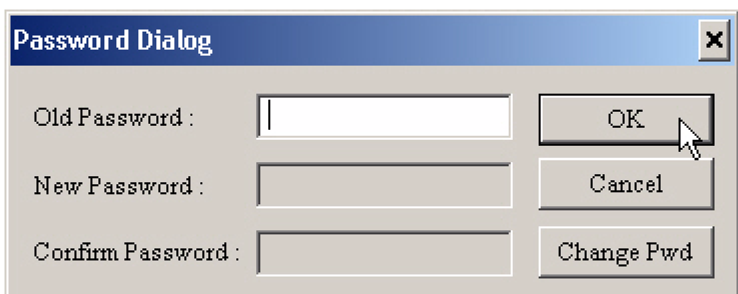
[1] Double-click the “Vista for Service” icon.



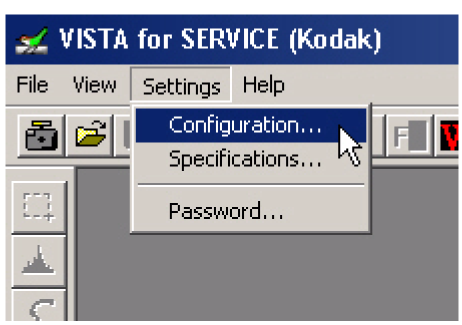
[2] Click [OK].



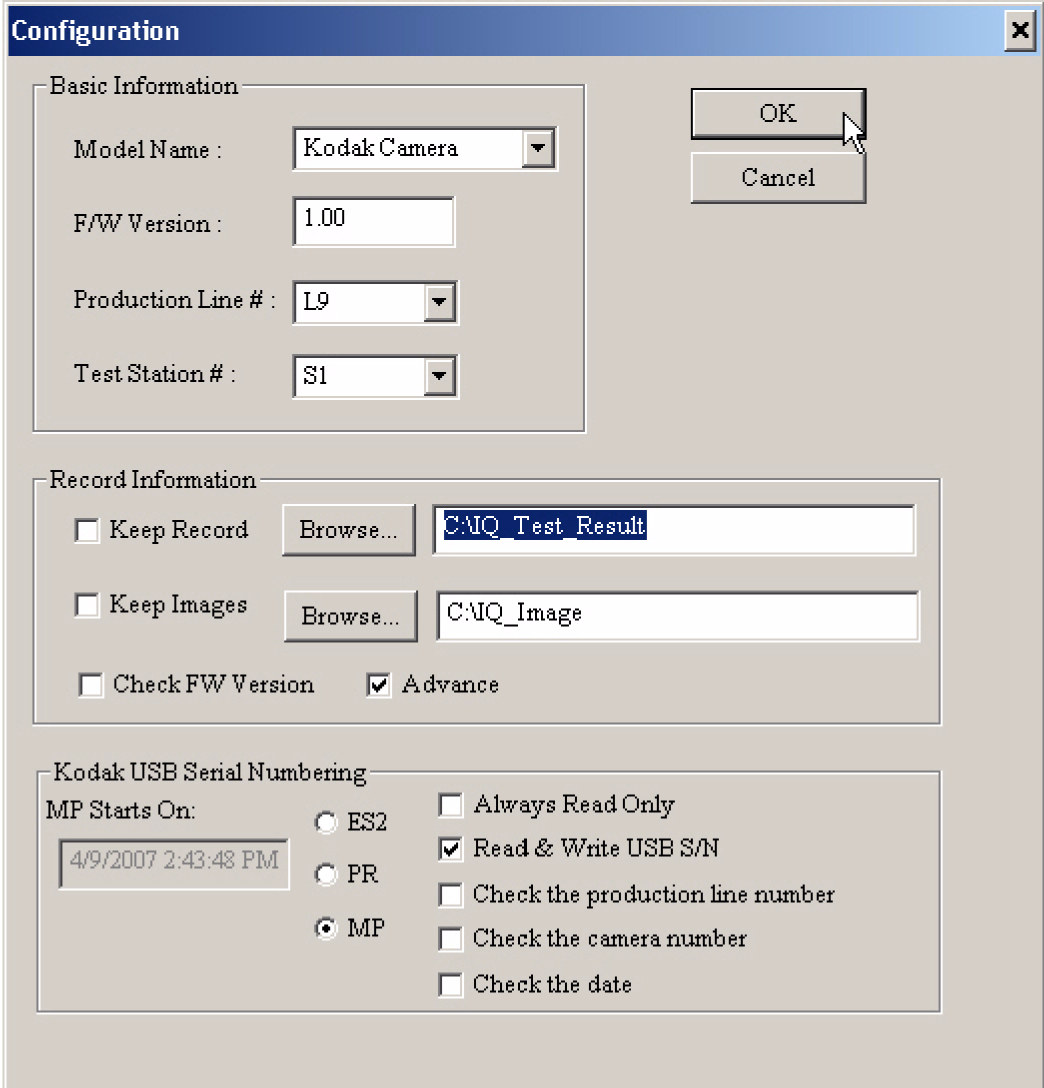
[3] Select **Settings>Password...**



[4] Click [OK].



[5] Select **Settings>Configuration...**

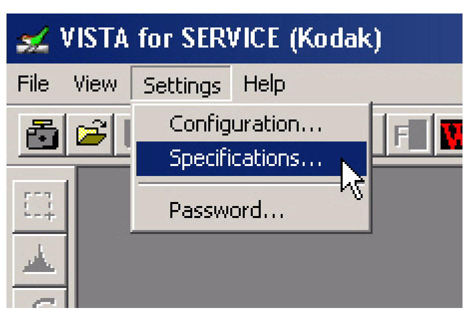


Important

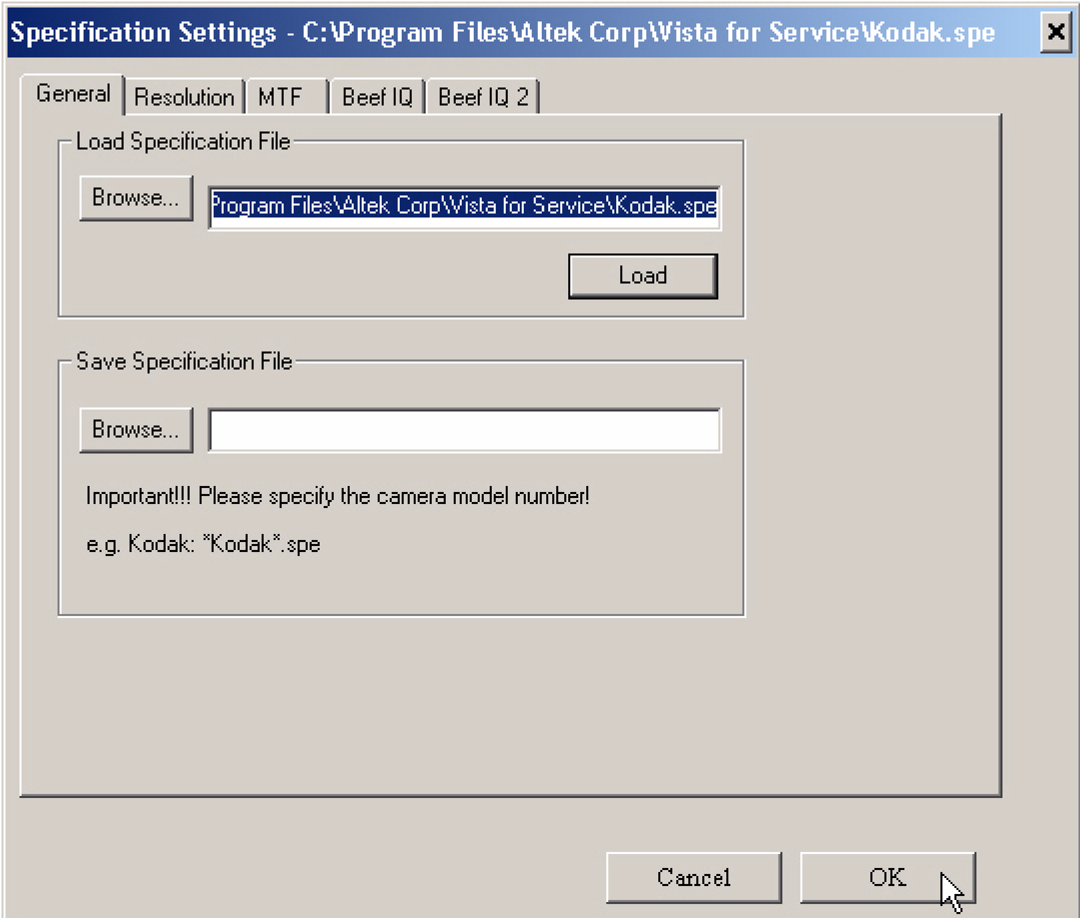
If the information is not the same, you must enter the information to match the graphic above.

[6] Check that the information in the fields on this screen match the graphic above.

[7] Click [OK].



[8] Select **Settings>Specifications...**

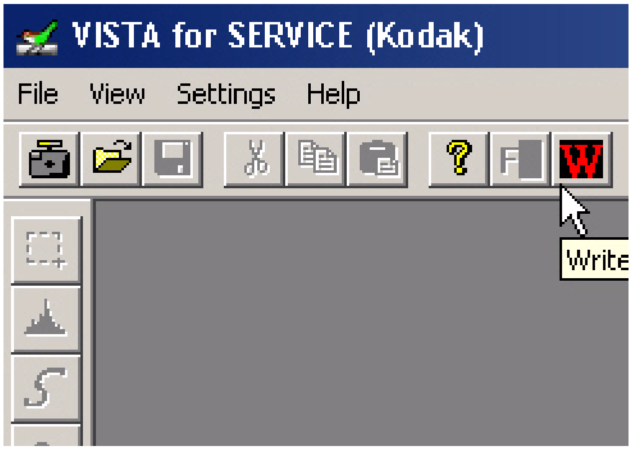


[9] Check that the path for the file “kodak.spe” is **C:\Program Files\Altek Corp\Vista for Service\Kodak.spe**

[10] Click [OK].

[11] De-energize the CAMERA.

Checking the Connection to the SERVICE SOFTWARE



[1] Connect the USB CABLE to the computer.

[2] Double-click the “Vista for Service” icon.

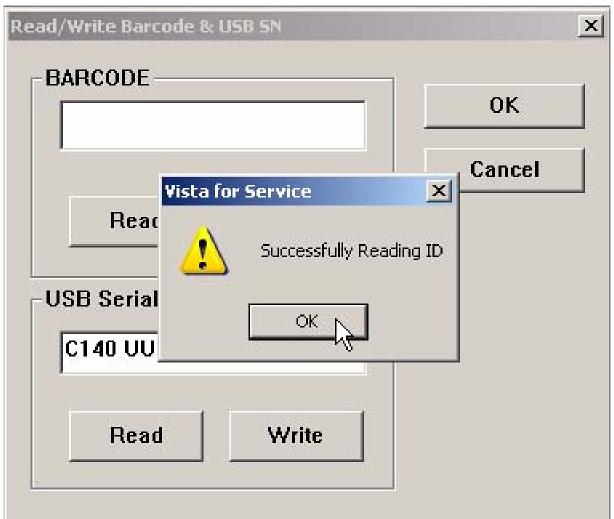
[3] At the same time, press and hold:

- “Tele” BUTTON
- “Review” BUTTON
- “On/Off” BUTTON

[4] Release the BUTTONS to energize the CAMERA.

[5] Connect the USB CABLE to the CAMERA.

[6] Click the “Write” icon.



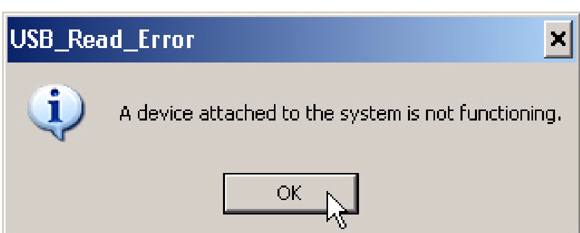
[7] In the “USB Serial Number” section, click [Read].

[8] If no errors display, the software and the CAMERA have USB communication.

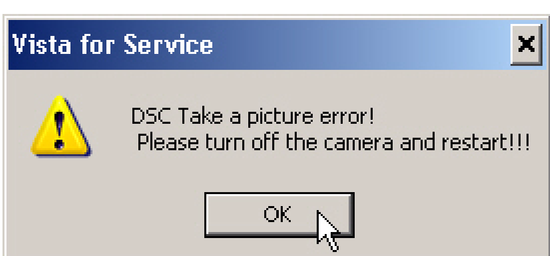
Note

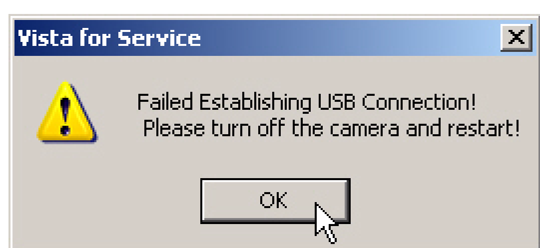
The serial number of the CAMERA displays in the field.

[9] Click [OK].









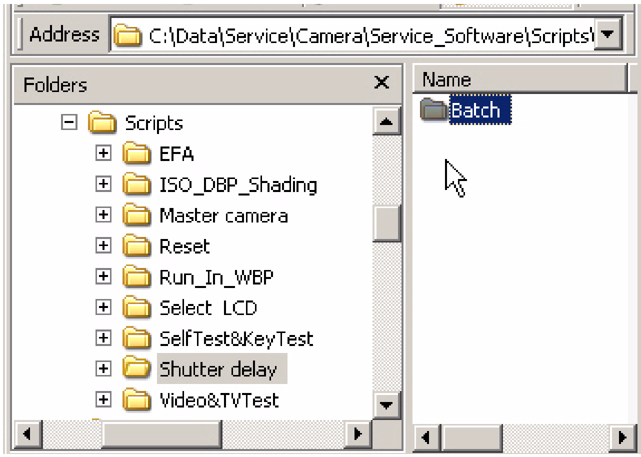
[10] If any of the error windows appear when you run the SERVICE SOFTWARE:

- Click [OK].

- Check:
  - CAMERA is energized with the correct combination of BUTTONS
  - connections for the USB CABLE
  - connections for the AC ADAPTER
- Do:
  - Step 19 - Step 27 of the procedure “Installing the Altek Vista SERVICE SOFTWARE on the Computer” on Page 50
  - “Checking the Connection to the SERVICE SOFTWARE” on Page 59 again

Preparing the MEMORY CARDS for Service

Preparing the “C140 Shutter_Delay” MEMORY CARD



Important

Every CAMERA, including the MASTER CAMERA, must have this procedure run first before any other calibration. See LENS AY, MAIN BOARD, STROBE BOARD AY - “Shutter Delay” on Page 32.

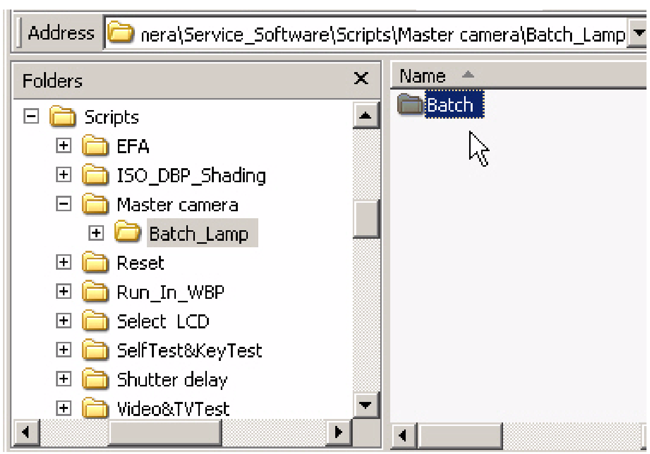
[1] Open the folder “Shutter delay”.

[2] Check for the folder “Batch”.

[3] Make a copy of the folder “Batch” to a blank MEMORY CARD.

[4] Label the MEMORY CARD “C140 Shutter_Delay”.

Preparing the “C140 Master Camera” MEMORY CARD



[1] Open the folders:

- “Service_Software”
- “master camera”

[2] Open the folder “Batch_Lamp”.

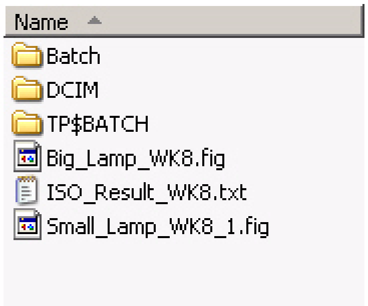
[3] Make a copy of the folder “Batch” to a blank MEMORY CARD.

[4] Label the MEMORY CARD “C140 Master Camera”.

Note

- Additional files are made on this MEMORY CARD when the procedure is run.
- The additional files are used in the next procedure.

Preparing the “C140 ISO_DBP_Shading” MEMORY CARD



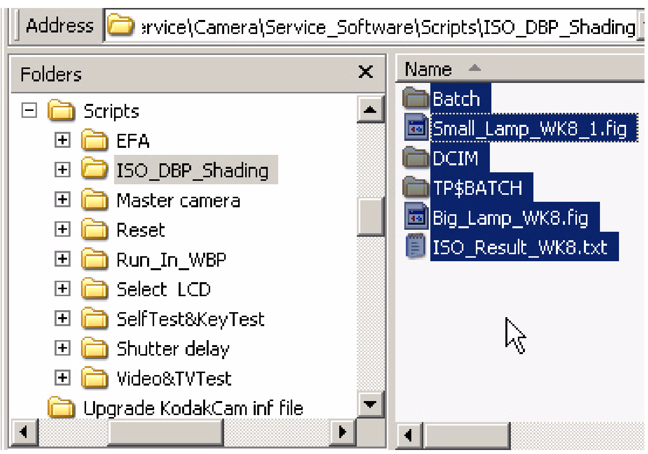
Important
Additional files from the “C140 Master Camera” MEMORY CARD are necessary for this procedure.

[1] Insert the “C140 Master Camera” MEMORY CARD into the CARD READER of the computer.

[2] Open the folder “master camera” on the computer.

[3] Make a copy of the 3 additional files and the folders from the “C140 Master Camera” MEMORY CARD, from the completed procedure “MASTER CAMERA - “Calibration of the MASTER CAMERA”” on Page 34:

- “Big_Lamp_WK8.fig”
- “ISO_Result_WK8.txt”
- “Small_Lamp_WK8_1.fig”



[4] Paste the files and folders into the folder “master_camera” on the computer to keep.

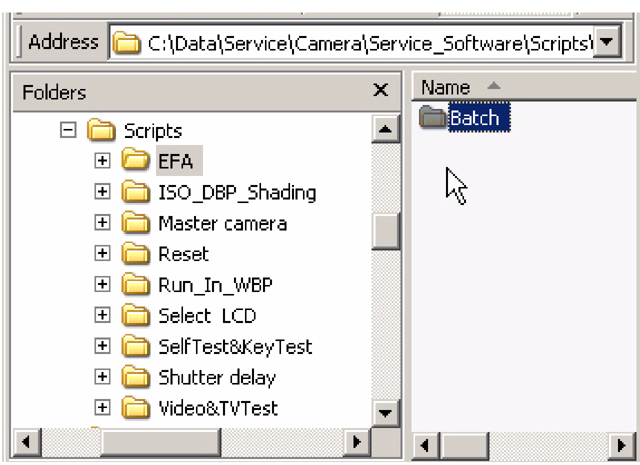
[5] Open the folder “ISO_DBP_Shading” on the computer.

[6] Paste the files and the folder into the folder “ISO_DBP_Shading”.

[7] From the folder “ISO_DBP_Shading”, make a copy of the files and the folders to a blank MEMORY CARD.

[8] Label the MEMORY CARD “C140 ISO_DBP_Shading”.

Preparing the “C140 EFA” MEMORY CARD



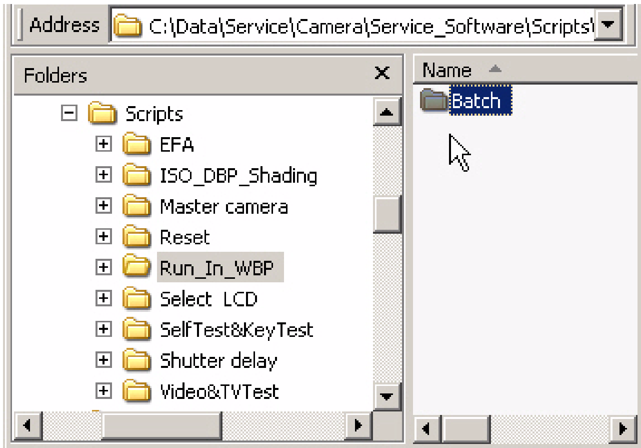
[1] Open the folder “EFA”.

[2] Check for folder “Batch”.

[3] Make a copy of the folder “Batch” to a blank MEMORY CARD.

[4] Label the MEMORY CARD “C140 EFA”.

Preparing the "C140 Run_In_WBP" MEMORY CARD



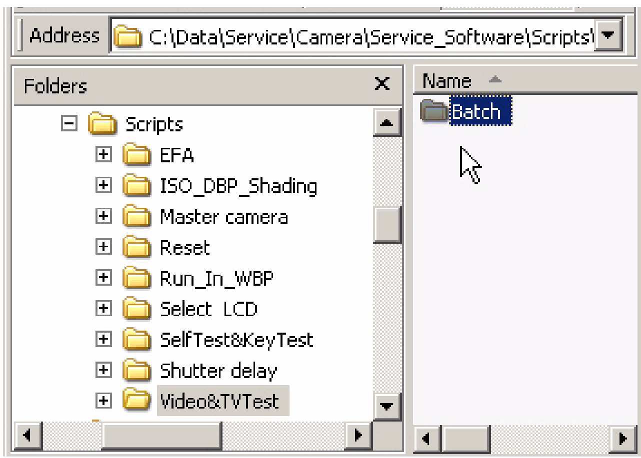
[1] Open the folder "Run_In_WBP".

[2] Check for the folder "Batch".

[3] Make a copy of the folder "Batch" to a blank MEMORY CARD.

[4] Label the MEMORY CARD "C140 Run_In_WBP".

Preparing the "C140 Video&TVTest" MEMORY CARD



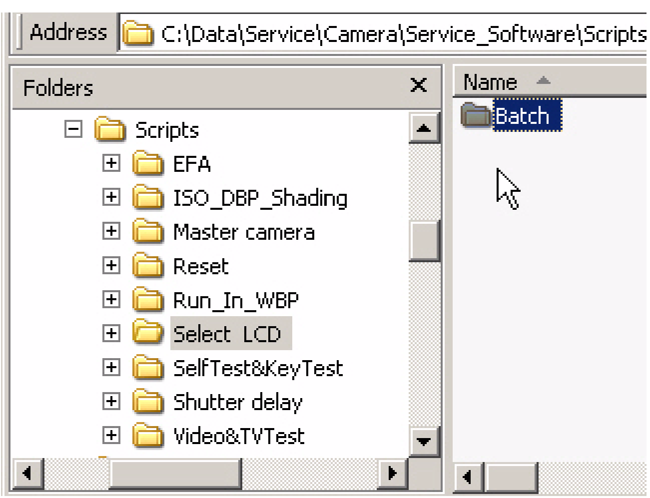
[1] Open the folder "Video&TVTest".

[2] Check for the folder "Batch".

[3] Make a copy of the folder "Batch" to a blank MEMORY CARD.

[4] Label the MEMORY CARD "C140 Video&TVTest".

Preparing the "Select LCD" MEMORY CARD



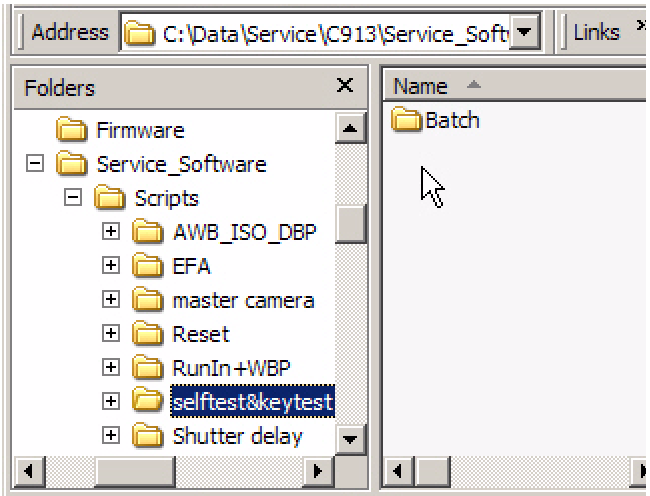
[1] Open the folder "Select LCD".

[2] Check for the folder "Batch".

[3] Make a copy of the folder "Batch" to a blank MEMORY CARD.

[4] Label the MEMORY CARD "C140 Select LCD".

Preparing the “C140 Self_Test” MEMORY CARD



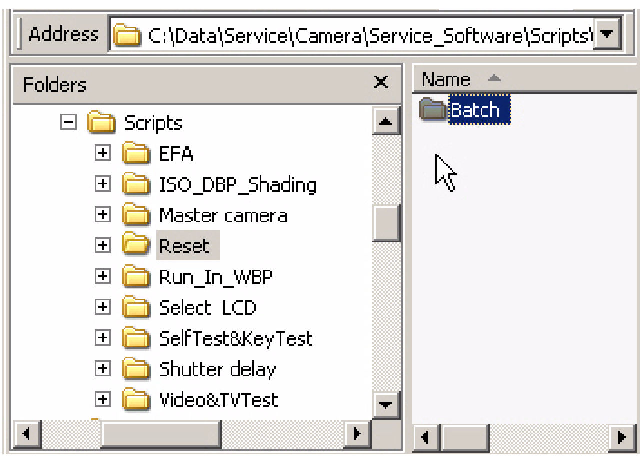
[1] Open the folder “selftest&keytest”.

[2] Check for the folder “Batch”.

[3] Make a copy of the folder “Batch” to a blank MEMORY CARD.

[4] Label the MEMORY CARD “C140 Self_Test”.

Preparing the “C140 Reset” MEMORY CARD



[1] Open the folder “Reset”.

[2] Check for the folder “Batch”.

[3] Make a copy of the folder “Batch” to a blank MEMORY CARD.

[4] Label the MEMORY CARD “C140 Reset”.

Using the "HIDDEN MENU" of the CAMERA

Displaying the "HIDDEN MENU"

Caution

Dangerous Voltage

[1] De-energize the CAMERA.

[2] Insert the MEMORY CARD into a CARD READER/WRITER.

[3] Make a folder with the name "HiddenMenu" on a blank MEMORY CARD.

[4] Remove the MEMORY CARD from the CARD READER.

[5] Insert into the CAMERA:

- MEMORY CARD
- BATTERIES that have a full charge

[6] Energize the CAMERA.

[7] If "Set Date & Time" displays, select "Cancel".

[8] Press:

- "menu" BUTTON
- 4-WAY BUTTON to the right to select "Setup"
- 4-WAY BUTTON up one time to select "About"
- "OK" BUTTON

[9] Check that the firmware version displays.

[10] Press:

- press and hold the "delete" BUTTON
- 4-WAY BUTTON to the right

[11] Release the BUTTONS.

[12] Check that the LCD displays "HIDDEN MENU" and options.

[13] To quit, press the 4-WAY BUTTON left 2 times.

[14] De-energize the CAMERA.

[15] Remove the MEMORY CARD from the CAMERA.

Checking for the Firmware Version and the Type of LCD

[1] Do Step 1 - Step 12 of Displaying the "HIDDEN MENU".

[2] Select "FIRMWARE VERSION" from the "HIDDEN MENU".

[3] Press the "OK" BUTTON.

[4] Record the type of LCD.

[5] To quit, do Step 13 - Step 15 of Displaying the "HIDDEN MENU".

Upgrading the Firmware Using the MEMORY CARD

[1] Does the “Support Center” of the Kodak.com Web Site have the firmware file for this CAMERA?

Yes	No
a. Download the “KC140xxx.exe” firmware file. b. When downloading is complete, double-click the “KC140xxx.exe” firmware file to decompress it to the “KC140.fw” file. c. Continue with Step 2.	a. The file you downloaded from the Kodak Partner Site is the highest version. Do the procedure using that file. b. Continue with Step 2.

[2] Energize the CAMERA.

[3] Press the “Menu” BUTTON.

[4] Check that “Auto” is selected for the “Image Storage”.

[5] Press the “Menu” BUTTON to quit.

[6] De-energize the CAMERA.

[7] Insert the MEMORY CARD into a CARD READER/WRITER.

[8] Delete all of the files and folders on the MEMORY CARD.

[9] Make:

- folder in the root directory on the MEMORY CARD with the name “system”
- copy of the “KC140.fw” firmware file to the “system” folder on the MEMORY CARD

[10] Remove the MEMORY CARD from the CARD READER.

Caution

Dangerous Voltage

[11] Insert into the CAMERA:

- BATTERIES that has a full charge
- MEMORY CARD with the firmware file

[12] Energize the CAMERA.

[13] Select:

- “Upgrade”
- “OK”

[14] Check that downloading:

- begins
- completes

[15] Select “Exit”.

[16] De-energize the CAMERA.

[17] Remove the MEMORY CARD from the CAMERA.

[18] Energize the CAMERA.

[19] Press the “Menu” BUTTON.

[20] Select:

- “Setup”
- “About”

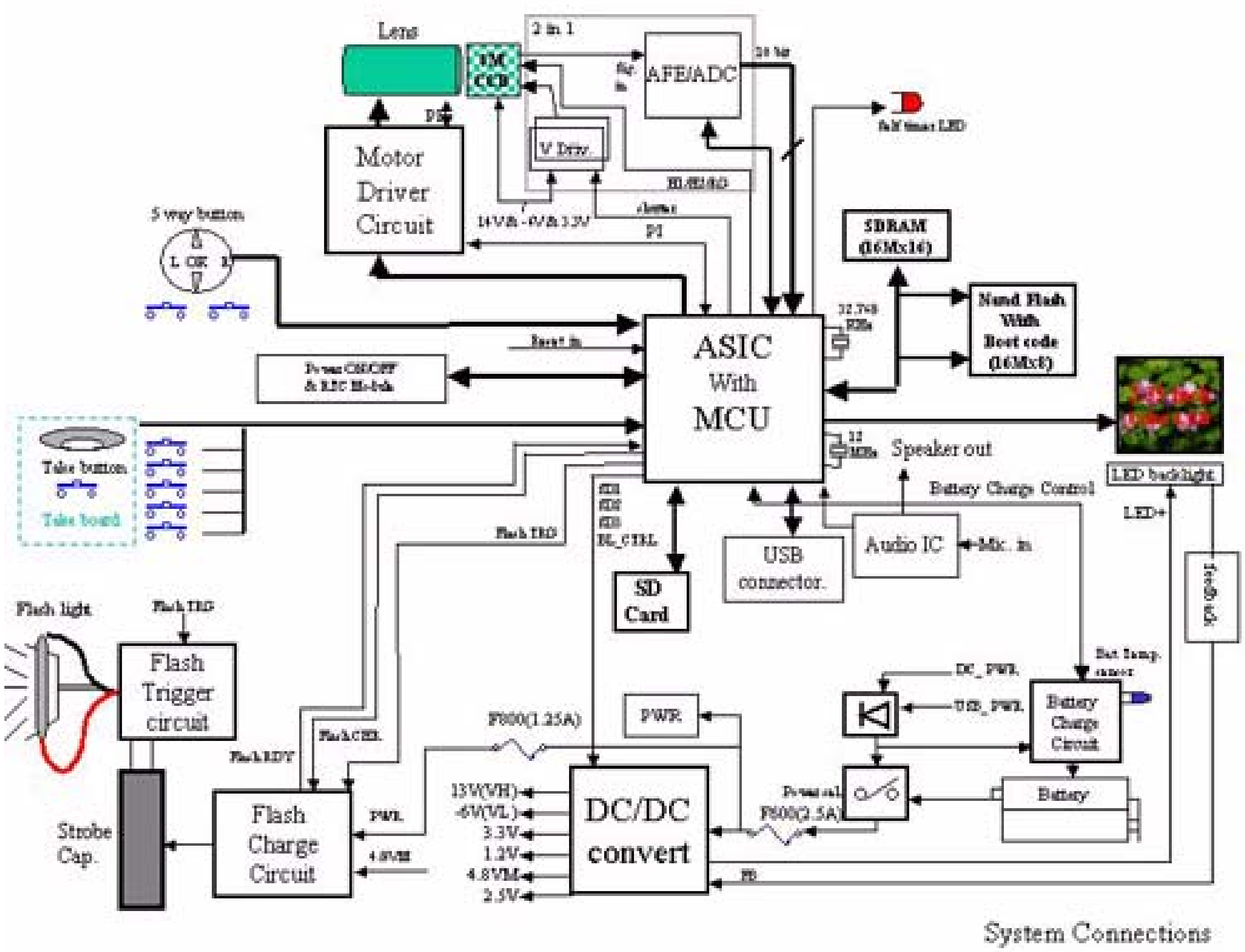
[21] Check:

- firmware on the CAMERA is the correct version
- CAMERA operates correctly

[22] De-energize the CAMERA.

Section 7: Diagrams

System Connections

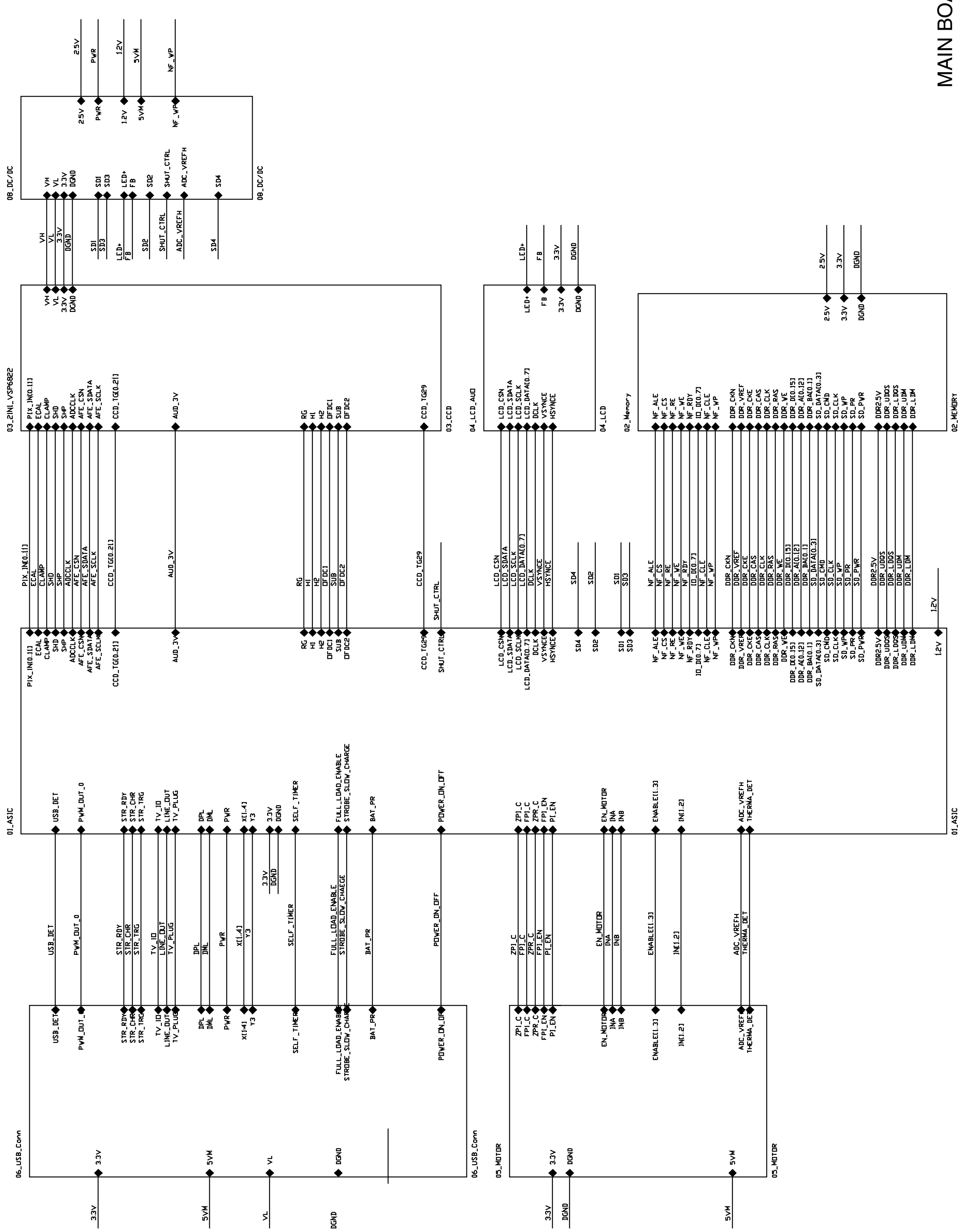


P323_1000HD

Schematics

MAIN BOARD, 1 of 8

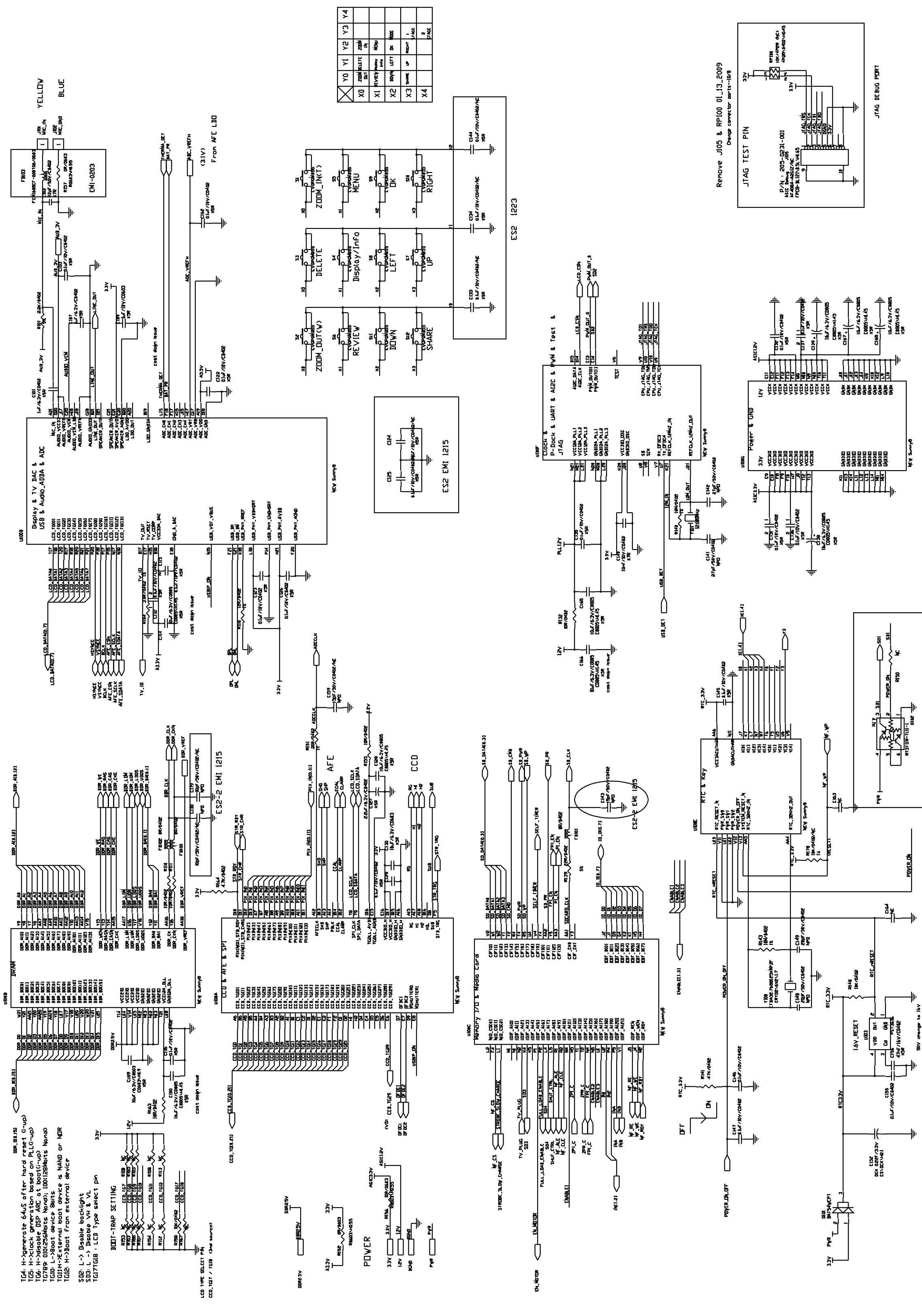
MAIN BOARD, 1 of 8



P323_0005FC_

MAIN BOARD, 2 of 8

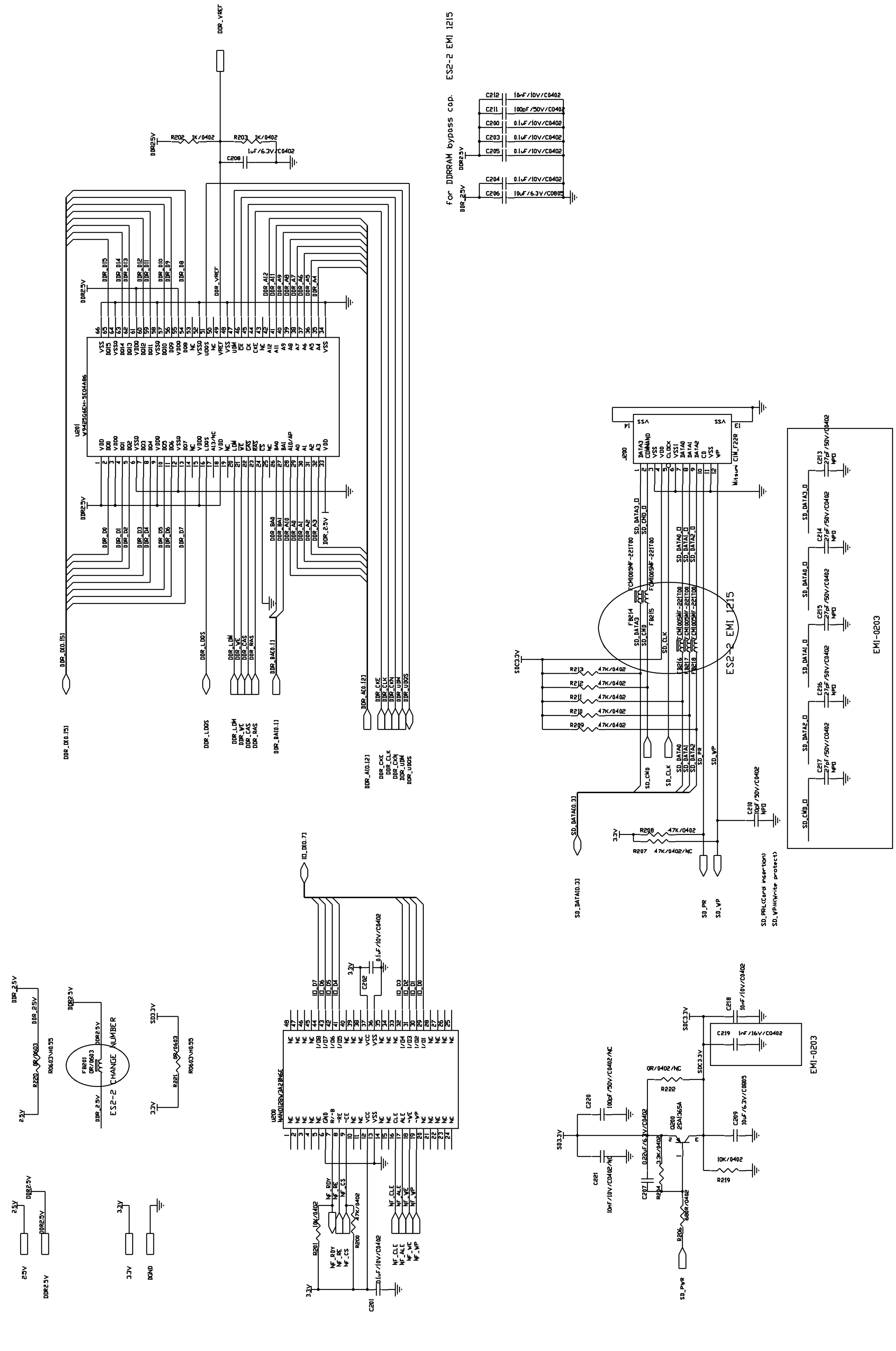
MAIN BOARD, 2 of 8



P323_0006FC_

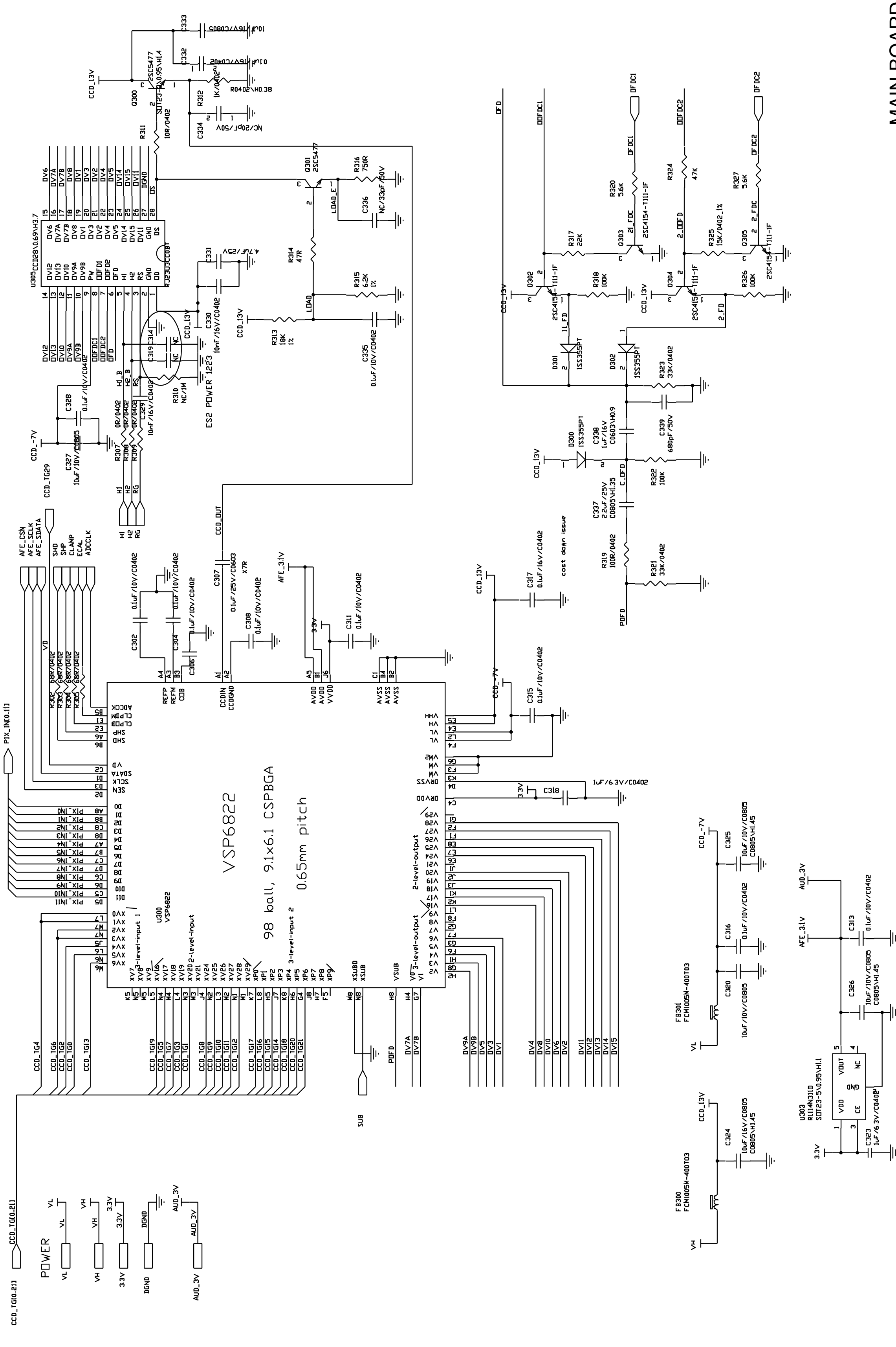
MAIN BOARD, 3 of 8

MAIN BOARD, 3 of 8



P323_0007FC_

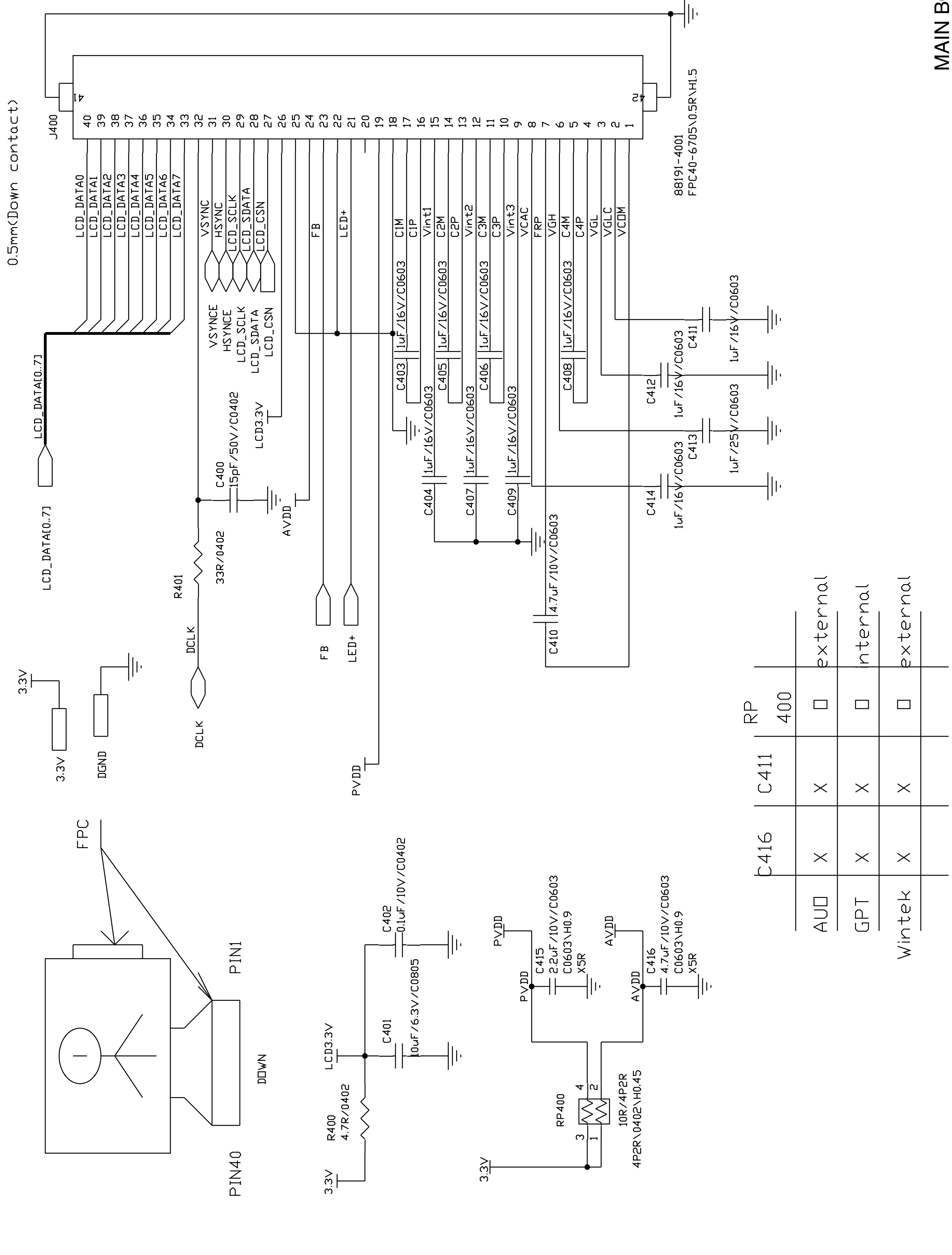
MAIN BOARD, 4 of 8



MAIN BOARD, 4 of 8

P323_0008FC_

MAIN BOARD, 5 of 8

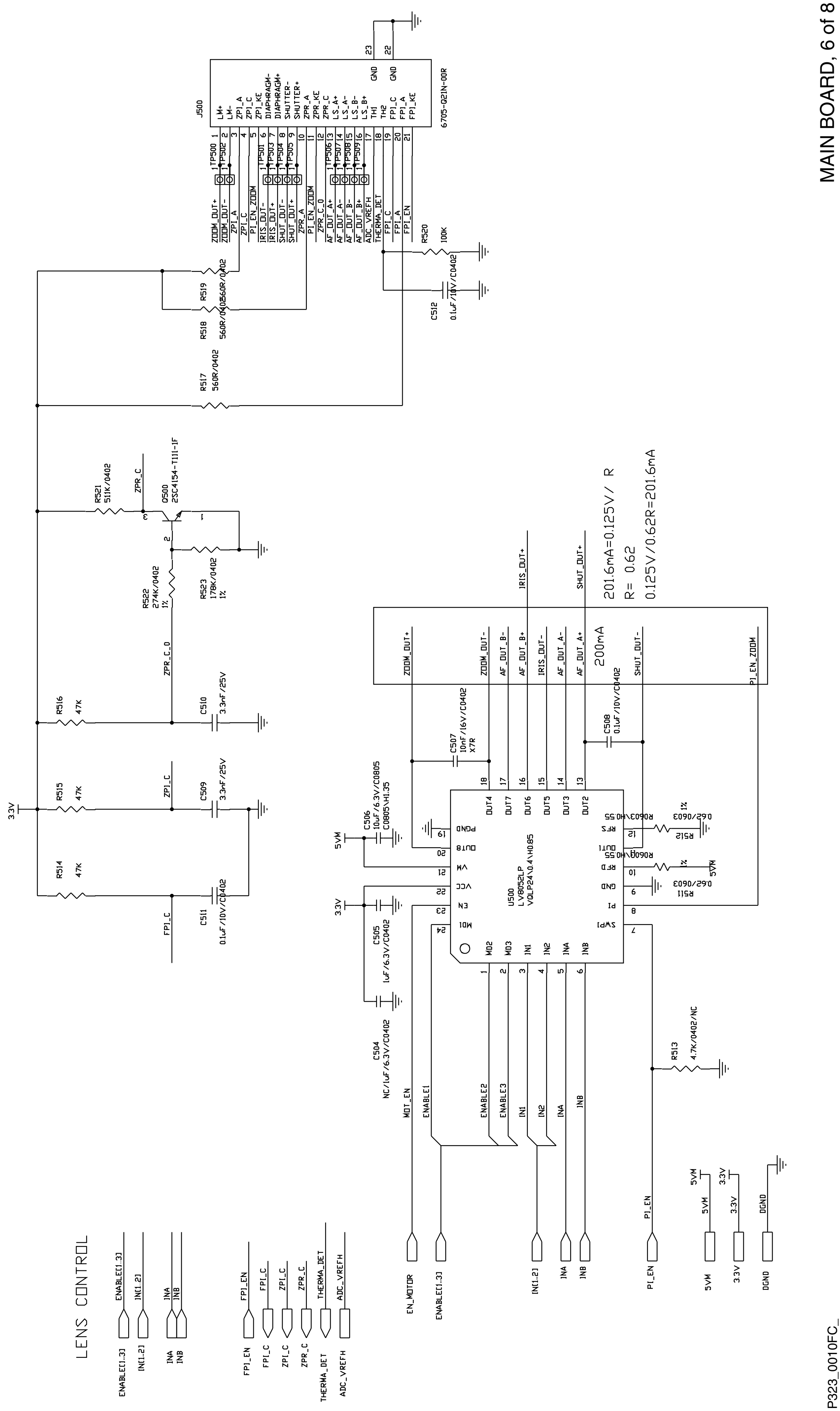


	C416	C411	RP 400	
AUO	X	X	□	external
GPT	X	X	□	internal
Wintek	X	X	□	external

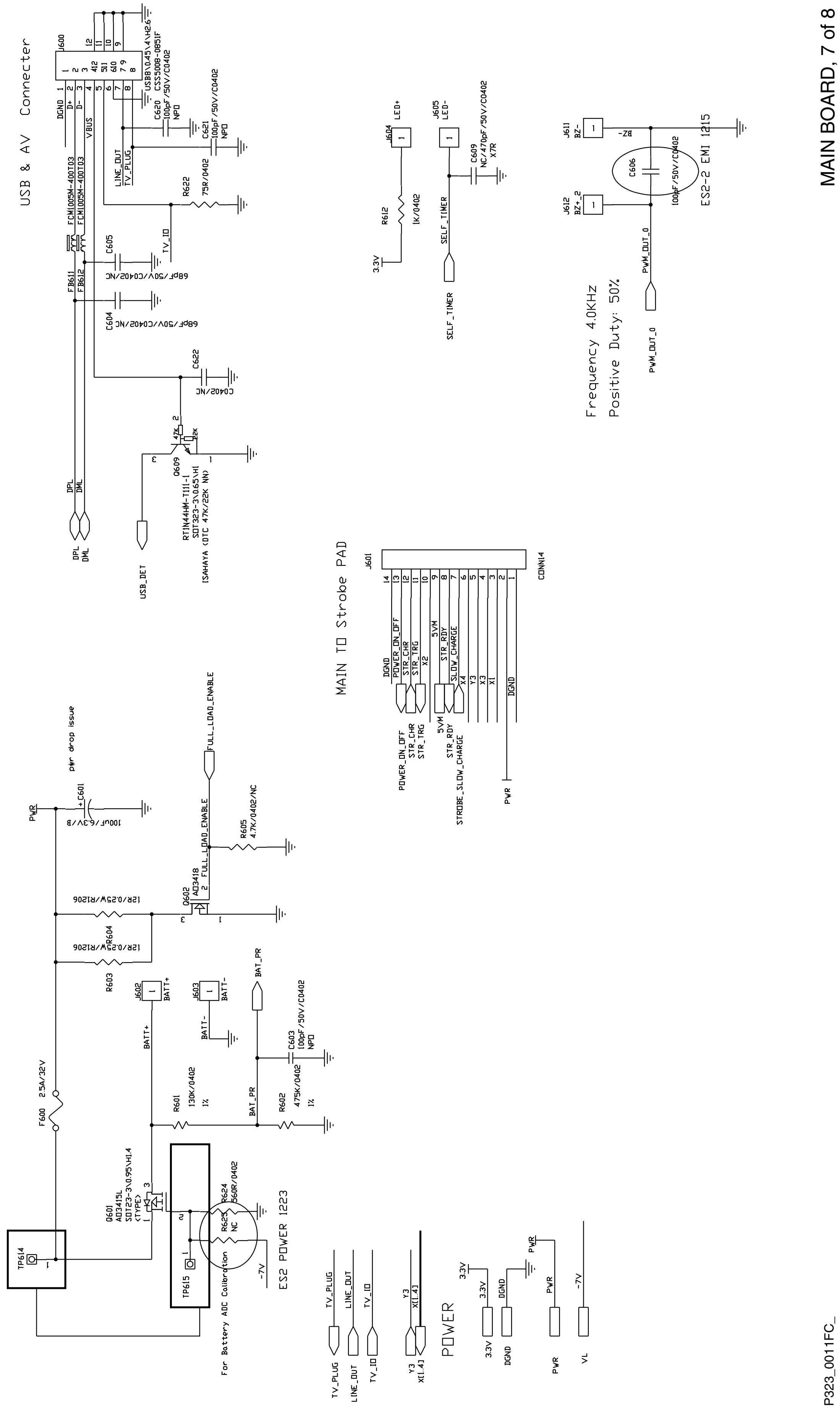
MAIN BOARD, 5 of 8

P323_0009FC_

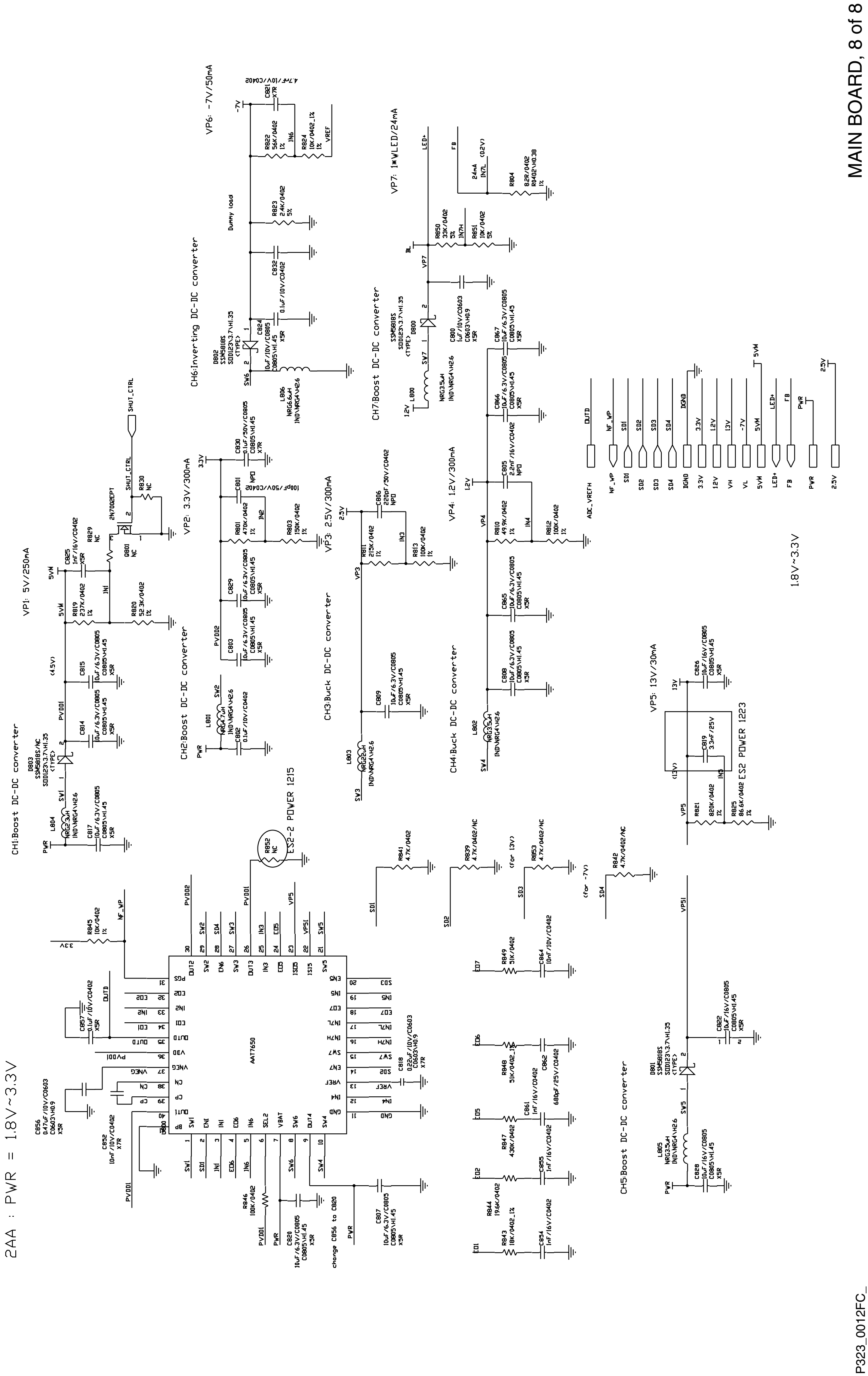
MAIN BOARD, 6 of 8



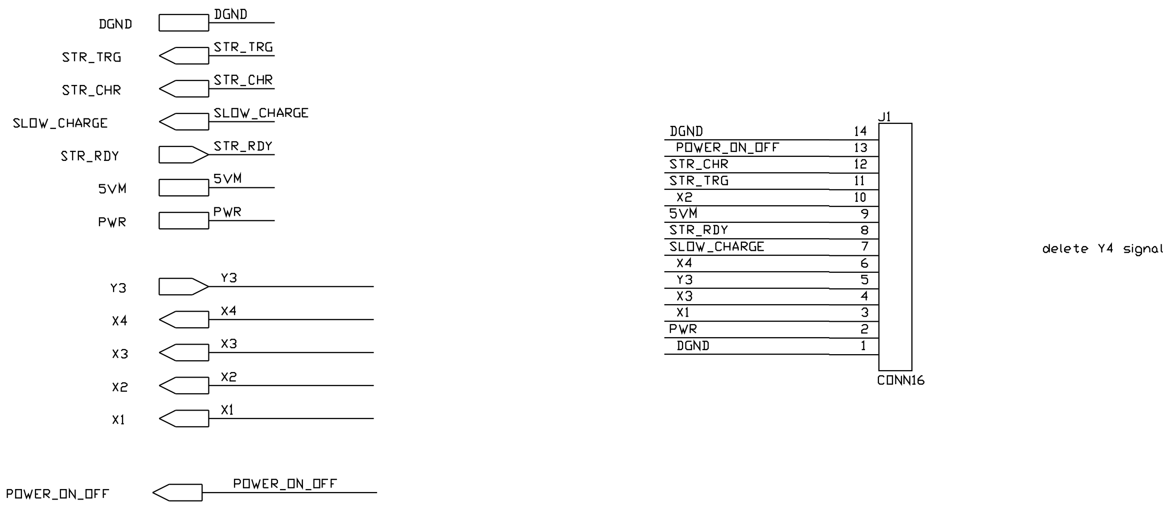
MAIN BOARD, 7 of 8



MAIN BOARD, 8 of 8



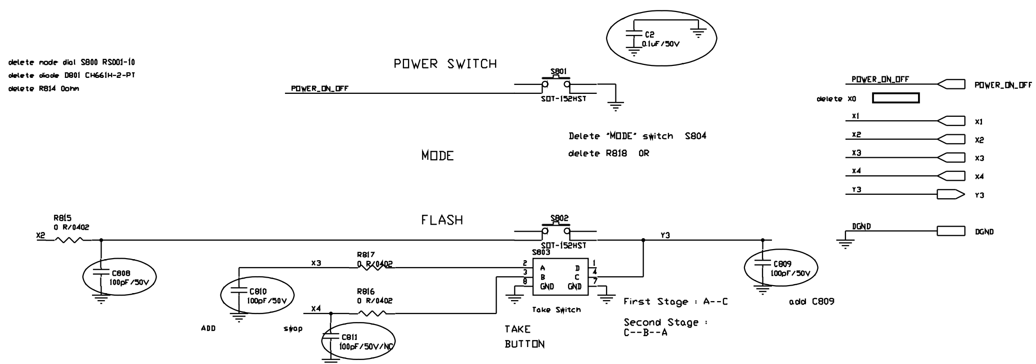
STROBE BOARD, 1 of 3



P323_0013BC_

STROBE BOARD, 1 of 3

STROBE BOARD, 2 of 3



TAKE BOARD: KEY FUNCTION TABLE

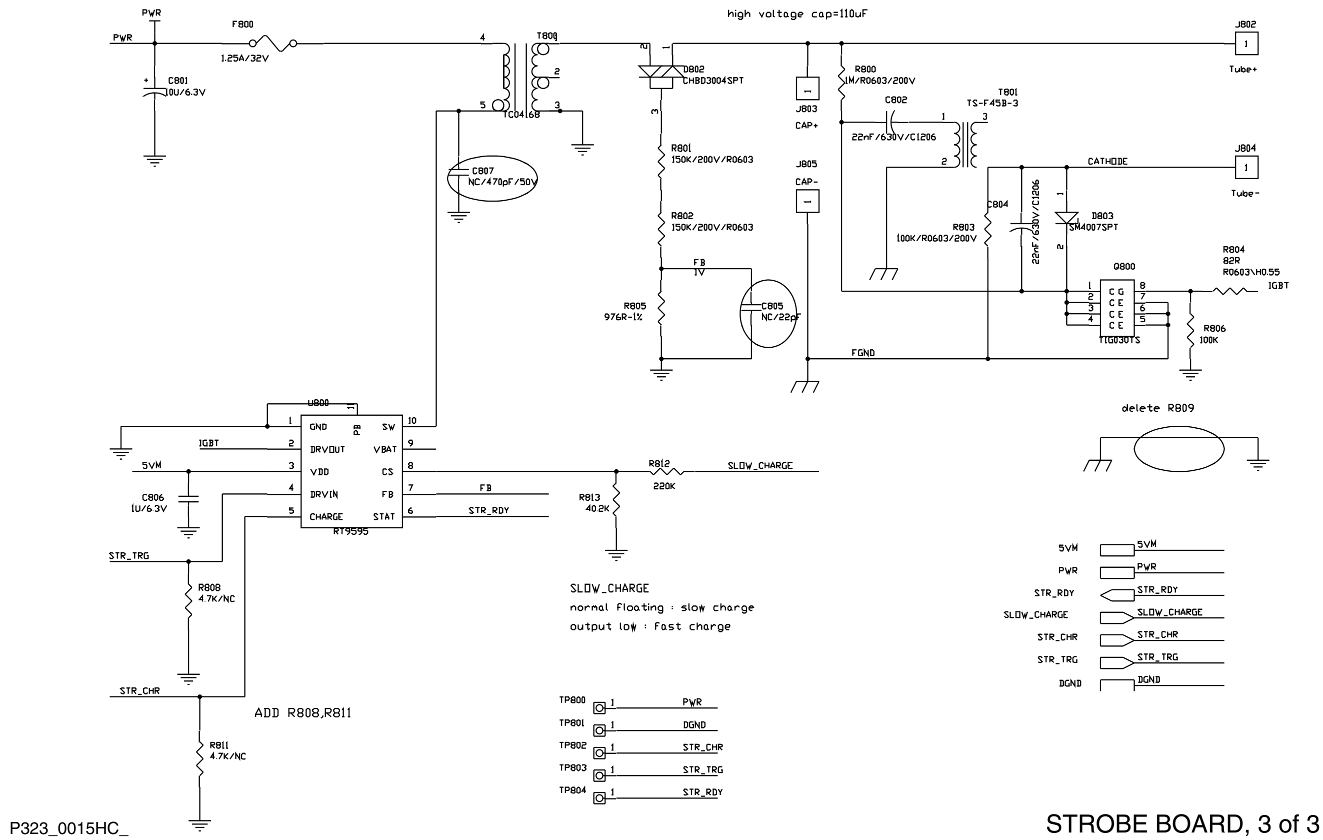
(0 : low, 1 : HIGH, H : pull high, P : PULSE)

TAKE BUTTON(STAGE 1)	X4/Y3
TAKE BUTTON(STAGE 2)	X3/X4/Y3
FLASH	X2/Y3
MODE	X1/Y3

P323_0014BC_

STROBE BOARD, 2 of 3

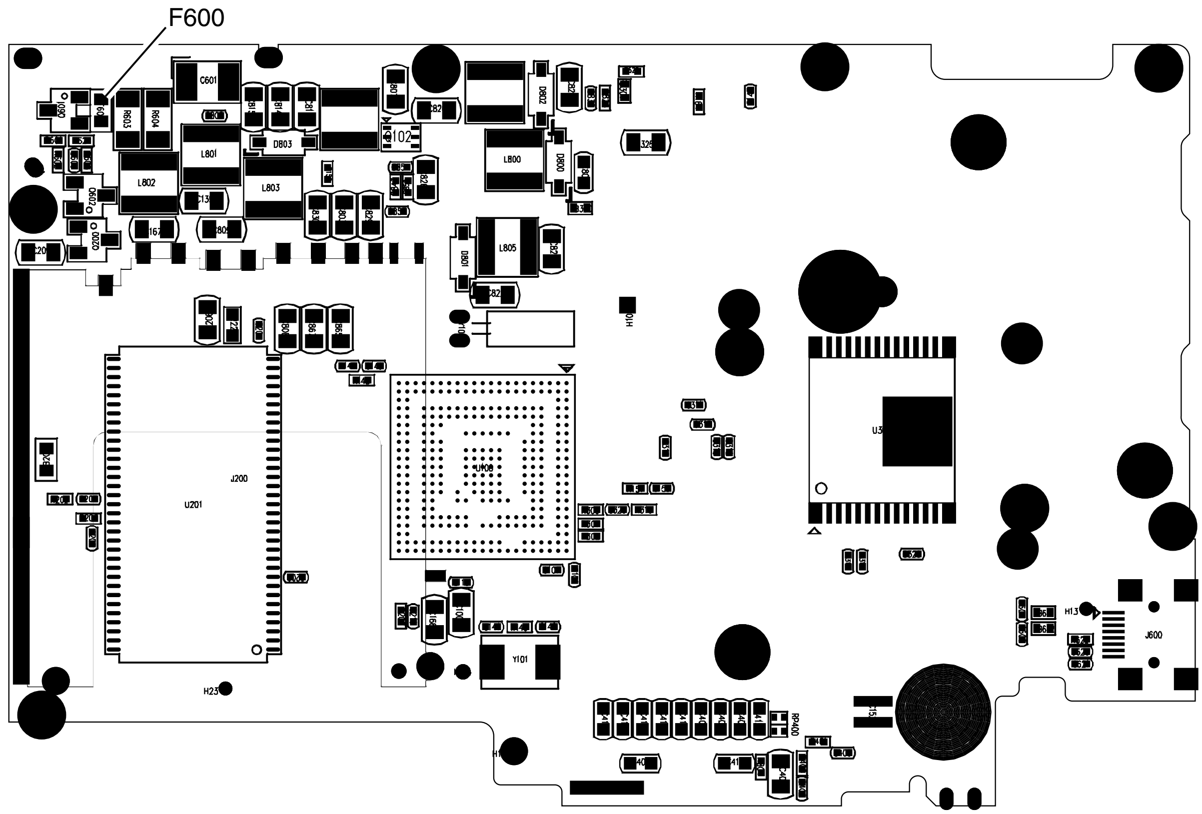
STROBE BOARD, 3 of 3



STROBE BOARD, 3 of 3

Component Layout

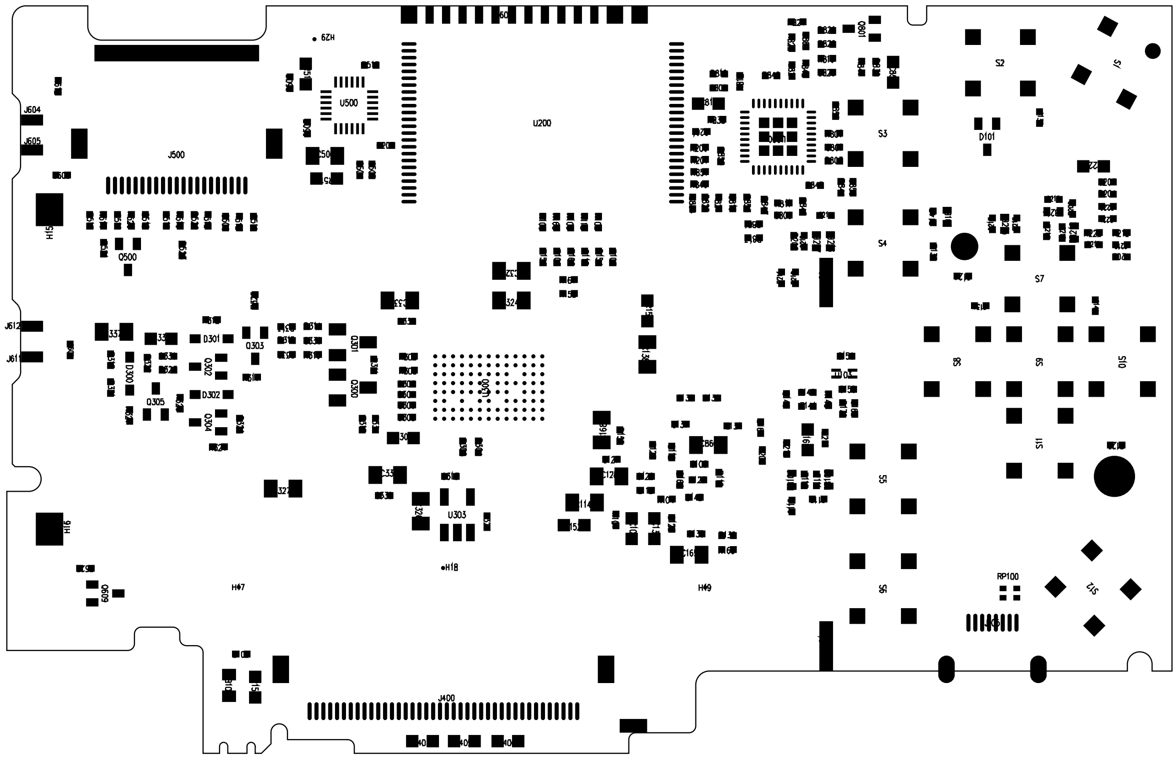
MAIN BOARD, Top



P323_0002HC_

MAIN BOARD, Top

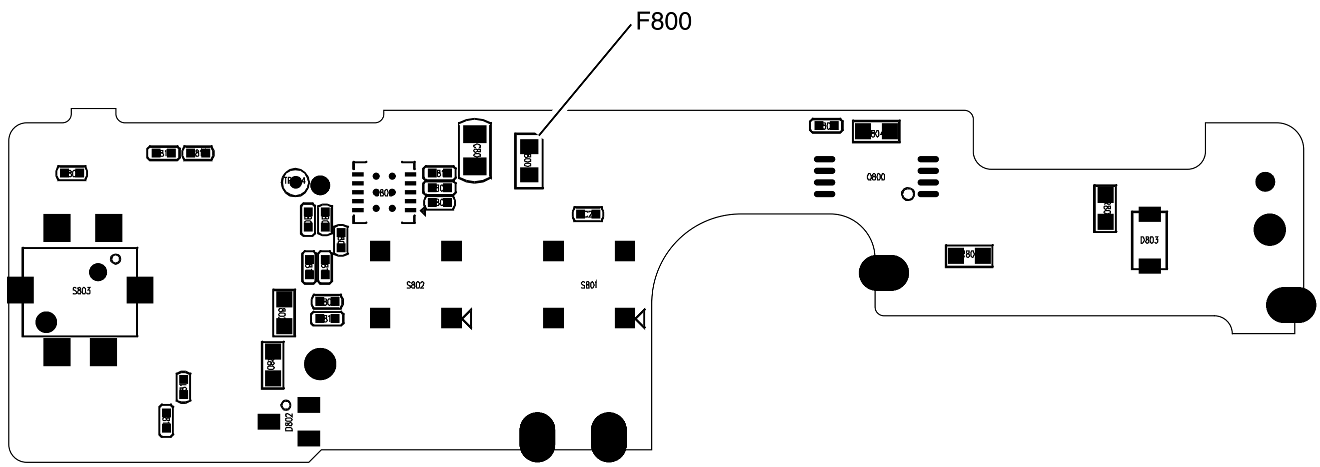
MAIN BOARD, Bottom



P323_0001HC_

MAIN BOARD, Bottom

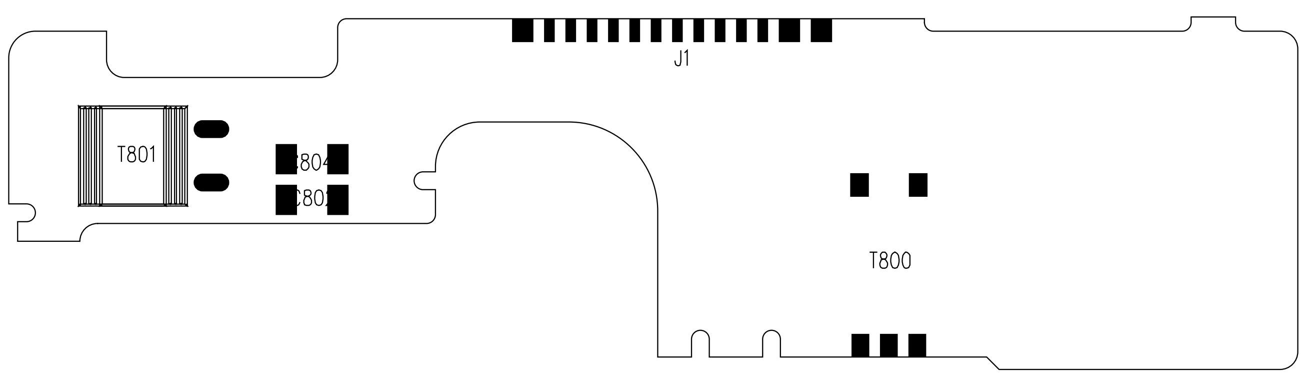
STROBE BOARD, Top



STROBE BOARD, Top

P323_0003HC_

STROBE BOARD, Bottom



STROBE BOARD, Bottom

P323_0004HC_

Section 8: Publication History

Publication Date	Publication No.	Changed Pages	File Name	Notes
22APR09	SM8720-1	---	sm8720_1.fm	New Publication
28APR09	SM8720-1	5, 6, 8, 9, 14, 29, 65	sm8720_1.fm	• Changed: – BATTERY from KAA2HR to BATTERIES, AA – color of silver COVERS to silver-beige – sequence of parts in the COVER AYs, BATTERY DOOR AYs and LCD table • Removed procedure about boot code.
21JUL09	SM8720-1	6, 9, 14	sm8720_1.fm	Added catalog and part numbers for the new color orange.
09SEP09	SM8720-1	12 - 14	sm8720_1.fm	Added part numbers for: • CCD • UV-IR CUT FILTER
18NOV09	SM8720-1	6, 10, 14	sm8720_1.fm	Added the information for the CD14 DIGITAL CAMERA.
07JAN10	SM8720-1	6, 10, 15	sm8720_1.fm	Added the information for the silver with black CD14 DIGITAL CAMERA.
15APR10	SM8720-1	11, 15	sm8720_1.fm	Added the part number for the MAIN BOARD AY for GAR.

Printed in U.S.A. • sm8720_1.fm

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